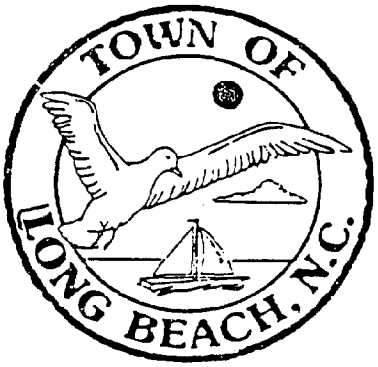
North Carolina Coastal Management Program

LAND USE PLAN UPDATE 1986



LAND USE PLAN UPDATE 1986

LONG BEACH, NORTH CAROLINA

LOCALLY ADOPTED ON SEPTEMBER 20, 1988

COASTAL RESOURCES COMMISSION CERTIFICATION ON DECEMBER 2, 1988

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Technical assistance provided by planning south inc.

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INTRODUCTION

PLANNING PROGRESS

The planning effort presented in this document is part of an ongoing process for Long Beach which began about a decade ago. The 1986 Land Use Plan Update is built upon efforts of the Town beginning in the mid-1970s when zoning and subdivision regulations were adopted by the Town Board of Commissioners.

Progress in implementation of earlier planning endeavors has been significant for the Town. Results can be seen in action related to Areas of Environmental Concern designation, dune protection, public access to beaches and natural environment, town appearance and image, zoning ordinance rewriting, new park and recreation facilities, a thoroughfare plan, street paving and lighting, increased housing, facilities and services, a new public safety building, new maintenance shop, full-time engineering/planning/building inspection, an active planning board, and ongoing public participation. All of these accomplishments can be attributed to the Town's planning efforts over the past decade with the help of state and federal financing through the North Carolina Coastal Area Management Act.

THE FUTURE

A number of issues still need to be tackled, however, including two increasingly crucial tasks. These are: (1) the planning for traffic flow modifications to handle the increasing numbers of vehicles using the Town's streets both in summer and winter months, and (2) the planning for a system of sewerage disposal to allow for continued growth--about two-thirds of the platted land in the community remains vacant, but the use of conventional septic systems will limit development in some areas.

Other important issues include: (1) improving space and working facilities in Town Hall, (2) street paving and maintenance, (3) street lighting, (4) town cleanliness and image, (5) commercial area consolidation, and (6) improved and increased recreational facilities.

OAK ISLAND COOPERATION

An increasingly important problem is the movement of traffic on and off of Oak Island. Building a second bridge from Mid Town Long Beach will be a pressing matter as growth continues. Paramount is the need for another evacuation route from the island in case of a storm emergency or nuclear accident. This will take intercommunity, county, and state cooperation to bring about.

Inter-municipal cooperation and consolidation of services and facilities are issues in which Long Beach could provide some valuable leadership with cooperation of Yaupon Beach and Caswell Beach. As growth continues, the three towns on the island will need to pull together, cooperating on an ever-increasing basis so as to maintain a high level of liveability. Consolidation of the three municipalities certainly would serve to rectify many problems and issues. Quality of life maintenance is of prime importance if the three are to keep their family-beach reputations and to guard against undesirable development. Changes for success would be enhanced through cooperation and consolidation.

COMMUNITY PROFILE

The Town of Long Beach is located on Oak Island on the southern coast of Brunswick County. The island is a narrow strip of land situated between the Intracoastal Waterway and the Atlantic Ocean, stretching about 12 miles virtually due east-west from the mouth of the Cape Fear River and its inlet--an 11-mile navigation channel with a minimum depth of 12 feet. Historic Fort Caswell now occupied by the North Carolina Baptist Assembly Grounds is located at the eastern tip of the island. Two other municipalities share the island--Caswell Beach and Yaupon Beach. The three towns abut each other. From its eastern border with Yaupon Beach, Long Beach covers most of the island, extending for eight miles to Lockwood's Folly Inlet on the west end.

POPULATION

Estimates of the population for Long Beach are available from several sources. The various estimates, however, differ considerably. The 1980 U.S. Census reported 1,795 residents. In 1979, the Office of State Budget and Management (N.C. Department of Administration) estimated 2,288 people. And a telephone survey in 1980 conducted by the Town estimated 2,100 residents. In 1984, the State estimated population to be 2,548, and straight line projections from figures given in Long Beach's Growth Management Plan of 1984 suggest a population of 2,747 in 1986. The Town is now experimenting with a continuous water meter count allowing for the use of 75 gallons per person per day. This new population accounting system shows a current population of much higher proportions--3,500.

The State makes yearly estimates of municipal population for the purpose of determining appropriate allocations of state funds. Both North Carolina and the U.S. Census estimates are determined by use of standard population projection methods based primarily on census data and extrapolation of historical population growth trends.

Since being settled as a residential community in the late 1940's, Long Beach has grown to an estimated 1986 permanent population of over 2,747. But this does not tell the complete population story for the community. In summer months, particularly on weekends and during holiday periods, the population surges to as high as 25-30,000 people. These surge estimates are made by Town Government and can be substantiated by measures such as water use, fire, police, and rescue calls, general congestion and traffic flow counts, and rental property occupancy. The summertime surges are based upon estimates made by the Long Beach Police Department and backed up by monthly water usage.

In 1974, Long Beach experienced a tremendous growth in population which was attributed to a large influx of construction workers involved in building Carolina Power and Light Company's Southport nuclear generating facility. But the construction phase of this facility ended in 1976, and the majority of these workers left the Long Beach area.

Projections for Long Beach's future show a steady growth of the permanent population and growth at an increasing rate for the summer resort/vacation population for the next 25 years. The projections given in the following table are based on U.S., North Carolina, and Planning South information.

Estimates for 1986 and projections made for 1990, 1996, and 2000 are derived from simple incremental straight-line calculations, stemming from historical performance in population, water usage, and building permit issuance.

POPULATION

Year	Permanent Residents	Seasonal Residents	Source*
1960	102	Average	USC
1970	493	Summer	USC
1980	1,795	Weekday	USC
1984	2,548		NC
1986	2,747	25,000	PSI
1990	3,249	27,000	PSI
1996	3,938	31,000	PSI
2000	4,627	35,000	PSI

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*USC - U.S. Census
NC - North Carolina Estimate
PSI - Planning South, Inc. Projection

ECONOMY

Long Beach is a family-oriented resort and retirement community. The economy relies on both the permanent population and vacationers.

Occupations of the permanent population working in Long Beach center around home building, real estate sales and rentals, property maintenance, convenience stores, restaurants, motels and pier and marina operations. No retail sales , unemployment, motel occupancy, and housing value figures are available for Long Beach. These are available on a countywide basis. Since there are no industries, a large percentage of the permanent working population commutes to work at Carolina Power and Light Nuclear Plant, Pfizer, Inc., and the Military Ocean Terminal. Of the permanent population, an increasing percentage are retired persons.

The local economy is bolstered by a seven-month tourist season: a spring and summer vacation period (April-August) and two fall fishing months (September and October). It is estimated that this season generates more than 75-80 percent of the income of local business establishments and provides numerous part-time job opportunities.

Long Beach, which lies in Brunswick County, is one of the reasons why the county is among the fastest growing in North Carolina. Although the forest products industry and manufacturing, fishing, and energy production, and goods transhipment through the military ocean terminal are prime sources for economy generation and support, tourism, housing and permanent retirement residency figure very strongly as mainstays in the economy. The increasing permanent population contributes to a constant year-round stability. Real estate and services industries are strong components of Long Beach's economy.

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HOUSING AND COMMERCIAL STRUCTURES

A survey of structures in 1979 showed a total of 2,814 structures; 62 were commercial and 2,752 were residential. Of the 2,752 homes, 653 housed permanent residents. 2,099 were considered to be seasonal or rental units. Four of the 62 commercial structures were motels which have a total of 118 units. In 1986, there are 3,779 residences and 86 commercial structures. There are now 109 motel units.

STRUCTURES

Year	Residences	Commercial	Mobile Homes
1980-81	2,752	62	---
1983-84	3,345	73	445
1984-85	3,582	86	499
1985-86	3,779	86	534
1990	4,500	100*	650**
2000	5,500	110*	750**

*Based upon currently zoned area size and lots available.

**If all vacant lots in the area where zoning allows mobile homes were occupied with mobile homes, some 360 more units could be situated over and above the 1985-86 figure. Two factors intervene, however--septic tank capability and attrition. Numerous units appear to be substandard and in need of replacement.

MUNICIPAL FUNDING

The Long Beach Town Budget for fiscal year (FY) 1985-86 is based on a total estimated property valuation of $148,000,000 and a tax rate of $.535 per $100 valuation. Revenue from ad valorem taxes totals $767,000. Estimated revaluation for 1986-87 is listed as $300,000,000.

FISCAL GROWTH

	1980-81	1983-84	1984-85	1985-86
Town Budget	$1.4M	$1.9M	$2.2M	$2.4M
General Fund	820K	1.1M	1.4M	1.5M
Powell Bill Funds	121K	98K	99K	105K
Revenue Sharing	79K	54K	87K	54K
Water Fund	367K	650K	662K	701K
Town Valuation	112M	130M	138M	148M
Tax Rate	.38/100	.38/100	.535/100	.535/100
Ad Valorem Income	435K	543K	741K	767K

The cost of running the Town has increased over the past several years due to inflation, growth, and government regulation. In 1984-85 the tax rate had to be increased due to increased expenses and growth. Fire and police protection, street lighting, paving and maintenance, public works, and administration costs have increased at a rate of $200,000+ for the past three fiscal years.

MUNICIPAL PHYSICAL PLANT

Town government outgrew its administrative office facilities some 4-5 years ago. Staff's quarters are close and open, providing little privacy. This atmosphere limits productivity and efficiency and places employees at a disadvantage in carrying out their responsibilities. Consequently, the citizenry is sometimes served at less than an adequate level, and the infrastructure of the Town is not always maintained at the highest degree of care. Ultimately, property owners do not always receive their best value for the taxes they invest in their Town. More spacious accommodations are needed for Town Hall.

POLICE PROTECTION

The Long Beach Police Department personnel roster includes a chief, captain, two detectives, seven patrol officers, and four full-time and one part-time dispatchers. The department is equipped with eight patrol cars and one animal control truck. Two officers are assigned to animal control.

A problem the department faces on an annual basis is the influx of population the Town experiences during the vacation season and especially on peak holiday weekends--Memorial Day, Independence Day, and Labor Day. Current staff is sufficient to serve and protect the Town during most of the year, but the force is strained during summer months. The department has managed to keep pace in force size to meet the needs of the permanent population during off-season. The department moved into new quarters in 1984-85 where there is currently sufficient space for growth.

FIRE PROTECTION

The Long Beach Volunteer Fire Department is staffed by a Chief and Assistant Chief, two station Captains, and three Engine/Ladder Lieutenants, plus ten fire-fighters. Apparatus includes three pumpers, an aerial truck, and a brush fire skid unit.

	Pump	Tank
1979 Pierce	1,000 gpm	500 gallons
1971 Howe	1,000 gpm	1,000 gallons
1955 American La France	750 gpm	300 gallons
1949 Seagrave Aerial	65 ft ladder	750 gpm
1953 Dodge Brush Fire Skid Truck	250 gpm	250 gallons

Two fire stations are situated on Oak Island Drive. One is at the Town Hall complex between 47th and 48th Streets East, and the other is located between 1st and 2nd Streets East. Because of the linear shape of Long Beach, fire apparatus sometimes must travel long distances to respond to a call. In the summer season this could be a problem because of congestion.

Long Beach has a high Fire Underwriters Rating of 5. This is on a scale of 1 to 10, where 1 is the highest rating. A rating of 5 for a volunteer department in a town the size of Long Beach means that the community has high quality protection.

RESCUE SQUAD

The rescue squad currently has 29 volunteer members. Equipment includes a boat, crash truck, three ambulances, a general purpose vehicle and jeep, a Jaws of Life unit and a Life Pac which includes a heart attack unit, defibulator and blood pressure machine. The rescue station is located in the Town Hall complex on Oak Island Drive between 46th and 47th Streets East.

RECREATION

Long Beach established its recreation department in 1974. Staff includes a full-time director and five full-time seasonal lifeguards for twelve weeks.

The department maintains numerous lands and facilities. The largest physical plant is the 5,500 square foot Recreation Center at 31st Street SE and Oak Island Drive. The structure contains one large multipurpose room, two smaller activity rooms, office and storage space, weight room, photography laboratory, kitchen, showers, baths, and lockers. Also located at the site is a children's playground, picnic area, and basketball, volleyball, and shuffleboard courts.

The department also operates the E. F. Middleton Park located at 47th Street SE and Oak Island Drive, adjacent to Town Hall. This park includes a children's playground (located on leased land), a combination picnic shelter and barbeque pit, bathrooms, a lighted baseball field, two lighted tennis courts, a basketball court and a concession stand, and a press box.

Robin Schuster Park was added to the system in 1984-85. This facility is located on abandoned street right-of-way fronting on the Intracoastal Waterway at the Intersection of West Oak Island and West Yacht Drives. The park contains playground equipment and picnic facilities.

At 48th Street East and Beach Drive, the Town operates a cabana facility with parking at the beach. This new accommodation with bathrooms is under lifeguard supervision during the summer. It has been designated as a regional access point by CAMA.

There are 41 other access points to the ocean from Beach Drive. All of these are at street ends, lying on rights-of-way owned by the Town. Each includes a dune protection bridge, parking, signage, and trash receptacles. Long Beach is a strong supporter of the CAMA Beach Access Program, from which the Town has benefitted.

At 19th Place East and Davis Creek, an attractive boardwalk and gazebo crosses the marsh and creek. The purpose of this special town feature is to allow access to the estuarine system for environmental interpretation and experience without injuring the fragile creek and salt grasslands.

The Tidal-Way Trails Park was opened in November 1985. This canoe and boating trail is accessible at the gazebo and dock on Davis Creek/Canal at the foot of 31st Street East next to the Recreation Center. The trail is barrier-free and open from sunrise to midnight every day.

Two public boat ramps are maintained by the recreation department, one located at 54th Street West at the Sportsmen's Marina and the other at the Dutchman Creek Villas and Marina at 55th Street East and Yacht Drive.

Future plans for facilities include additions to the Recreation Center.

The department offers a wide variety of ongoing and special event activities for all ages. Some of these activities are co-sponsored with Brunswick Technical College and the Oak Island Art Guild. Examples of activities are:

- aerobics
- tennis lessons
- sewing classes
- yoga classes
- field days
- free movies
- community cleanup and beautification
- ceramics
- weight lifting
- self-defense
- surfing classes
- preschool story hour
- card playing

The department provides lifeguards at three locations along the strand from June through August. The guards are on duty daily from 8:30 until 5:00.

In the spring of 1980 a five-member Parks and Recreation Board was formed to provide the department with direction, programming, and planning advice. Because of the very limited facilities at the Town Hall, Commissioners', Planning Board, and other meetings are held at the Recreation Center.

PUBLIC WORKS

Public Works is composed of the Sanitation, Street, Water, Building and Grounds Maintenance, and Vehicle Maintenance Departments.

These departments are responsible for the various functions of the maintenance and repair of the Town's services to the property owners and general public.

A new public works building was constructed in 1985 in the vicinity of the Oak Island Airport on NC 133.

WATER CONSUMPTION

Dramatic increases in water use have been seen almost yearly for Long Beach ranging from the consumption of 103 million gallons in 1979 to 158 million gallons for 1985. This phenomenal increase can be attributed to construction and development in the community, population growth, and higher visitorship with each succeeding summer season. By the end of 1986 it is estimated that water consumption will be about 167 million gallons. Water consumption figures were gathered from Town records.

In October 1980, the Town of Long Beach entered into a forty-year Contract with Brunswick County for the purchase of treated water. The Town operates its own water distribution system serving water users within its Municipal boundaries.

WATER USE

Year	Million Gallons
1979	103
1980	128
1981	152
1982	152
1983	165
1984	274
1985	158
1986	167
1987	176
1988	188

PLANNING, ENGINEERING, AND INSPECTIONS

Because of the significant growth in the community in recent years, planning, engineering, and inspection activities have increased substantially. The most easily measured function of these is building inspection.

Although there were only slight increases in the numbers of building permits allowed each year by the Town between 1979 and 1982, there was an over 108 percent surge in 1983. This jump was from 125 to 261 permits reflected lower interest rates and an improving economy, fostering construction to occur more rapidly. There were 197 permits issued in 1985. In 1986, interest rates again began to drop dramatically, spurring construction more.

The phenomenon of increased development activity in Long Beach is directly related to increasing population in North Carolina associated with Sunbelt economic growth, the growing popularity of North Carolina's beaches for vacationing and retirement purposes, and the growing affluence of society in general.

BUILDING PERMITS

Year	Residential Commercial	Mobile Homes
1978	114	--
1979	97	--
1980	100	--
1981	112	--
1982	125	--
1983	263	54
1984	250	47
1985	197	33

PROJECTED BUILDING PERMITS

Year	Residential Commercial	Mobile Homes
1986	200	30
1987	200	30
1988	200	28
1989	200	25
1990	200	20

TOURISM

While tourism is the largest contributor to the economy of Long Beach, it is also the source of many growing pains in Long Beach. The annual influx of seasonal residents places heavy demands on services provided by the Town beyond what is considered to be normal. Examples are garbage collection, police protection, water supply, capacity of septic systems, traffic control and general effects on area density.

Water is the prime attraction. The ocean with its beaches and fishing piers, and the Intracoastal Waterway/estuarine system including Davis Creek and Canal, are the attributes of Long Beach that draw larger crowds of visitors and vacationers each year. The services and facilities provided by the Town

face increasing demand season after season. In contrast is the off-season demand for community facilities and services. This is increasing also, but at a considerably slower rate. The trick, therefore, is for the Town administration to maintain some sense of balance between the two seasonal demand periods - winter and summer.

As pointed up in other parts of this text, the demand for fire, rescue, and police services, water recreation services, garbage and trash pick-up and disposal, increases substantially during the vacation season. Congestion and traffic congestion also increase. The Town has numerous ways of dealing with this fluctuating phenomenon by adding personnel, activating equipment, and increasing service to cope with added demand. The aforementioned services all receive increased attention during the summer months.

LAND USE

Development of urban land use patterns in the Town over the years has taken place in two distinct areas: (1) The Town Proper; and (2) The Beach. In the Town Proper, permanent residency is highest. Here there is more protection from the year-round severe elements as experienced in the Beach section of the community. The architecture contrasts in form also. More conventional residential, ranch-style homes can be found in the Town Proper. In the Beach section, homes are built primarily for vacation purposes and to weather better the high winds and encroaching waters experienced at more ocean side locations. Please refer to the following map which shows the Town Proper and Beach areas.

THE TOWN PROPER

This area can be delineated generally on the east by the town limits at Yaupon Beach, on the north and west by the Intracoastal Waterway and salt marsh, and on the south by Davis Creek and East Pelican Drive. For the purposes of this document, there are three specific sections identified in Town Proper. These are (1) East Town, (2) Mid and West Town, and the (3) Commercial Area.

East Town

This section of the community is bounded by the town limits, East Oak Island Drive and a line running between 64th and 65th Streets East. Zoned to accommodate mobile homes and single-family dwellings, the area is approaching development saturation with approximately 90 percent usable lot coverage.

The dominant uses here are vacation/retirement-type mobile homes, with only about 15 percent of the dwellings being conventionally built. Many mobile homes are over 10-15 years old and not built to state and HUD standards. Many of these older mobile homes would be unable to meet today's state building code standards.

All dwellings are served by the town water system and septic tanks. Because of ground saturation problems, some sections of East Town are experiencing septic system problems. These problems occur primarily after heavy rains and during extended wet periods.

East Town runs the gamut in appearance from attractive to unkempt. In some sections, overcrowding is becoming a problem. In addition to septic system problems, house fires here could become difficult to control particularly when coastal winds are high. Around some mobile homes, trees and bushes are quite thick to protect them from the hot summer sun. Heavy vegetation such as this can contribute to fire fighting difficulties.

There are 527 mobile homes located on 580 lots in the East Town area, with 196 lots being occupied by single-family dwellings, 1 by a multi-family dwelling, and 2 by commercial establishments.

Mid and West Town

Ranging from the eastern town limit at Yaupon Beach (to the south of East Oak Island Drive and East Town) and running the length and breadth of the community north of East Pelican Drive and Davis Creek, this part of Long Beach is dominated by conventional single-family dwellings and an extensive amount of vacant land. Located on larger lots with larger minimum square footage requirements than in East Town, this section of the community generally houses permanent residents. The homes, in the main, are situated on long residential streets (up to one-half mile in length) which promote undesirable thru traffic in neighborhoods, discourage east-west mobility, and require high expense for street paving and maintenance.

This section of Long Beach is over 75 percent vacant, still allowing for the possibility of making street modifications without greatly disrupting its neighborhoods. Mid and West Town are attractive and well-kept, with the most valuable lot locations on the Intracoastal Waterway and along Davis Canal and Davis Creek.

There are 387 lots in Mid and West Town located on the Intracoastal Waterway or salt marsh. Of these, 143 are used for single-family purposes. One parcel is used for a 42-unit condominium, one is occupied by an electrical power substation, and one is used as a town park. There are 242 vacant lots or 63 percent of these with Waterway or marsh frontage and Yacht Drive access remaining.

Along Davis Creek and Canal there are 386 platted lots, 94, or 24 percent of which are in use. There are 93 used for single-family dwellings, and one is used for tennis courts. There are 292 lots, or 76 percent of these frontage sites that lie vacant.

East Oak Island Drive Commercial Area

This section serves as the "central business district" for Long Beach. It generally is no more than one lot deep along East Oak Island Drive, except at 58th Street East where an arm of the district extends toward the beach as far as East Pelican Drive. Pedestrian shopping is discouraged with strip development. People do not walk from store to store as in a normal central business district setting. This type of commercial development complicates and promotes traffic congestion. Office and institutional uses can be found on the west end of this commercial strip which runs from 46th Street Northeast to 64th Street Northeast. Containment of commercial uses is needed on both ends of this strip to promote continuity, convenience, and better appearance. The office and institutional development of banks, offices, Town Hall, and a church at the western extremity of the Commercial Area, between 46th and 49th Streets East, form the type of cap that would be appropriate on the eastern end (between 59th and 66th Streets Southeast) of the Commercial Area.

This section is not well designed; parking is very inadequate and unorganized, and unnecessary traffic congestion is common during the summer. The area contains a number of uses which are incompatible. Curb and gutter and access control are needed.

Of the approximate 303 lots found in the Oak Island Drive Commercial Area,

215 lots, or 71 percent, are in use. 88, or 29 percent, remain vacant. Most of the properties in the strip are divided into 20-foot increments. In some cases this has left residual, small parcels.

THE BEACH

Much of the land on the east end of the beach, running from 58th to 74th Streets East, is undeveloped because of its being designated as an AEC (Area of Environmental Concern) to protect the 404 wetlands located there. To the west of 58th Street, however, there is moderate to heavy development running for an equivalent of some 124 blocks or nearly seven miles. Most of the land in this section of Long Beach is used for vacation/resort-type homes for rent. Vacant land on the oceanfront is fast being built upon, while the less expensive sites to the north of Beach Drive are more available.

To the far west toward Lockwood's Folly Inlet, beyond 60th Place West, homes are being built in precarious location. Even while newly built homes are periodically moved from the oceanfront because of severe erosion, more are being built in the vicinity. The Town has been unable to find ways to curtail this continuing development effectively because it does not have the ability to compensate landowners for being prohibited to develop their properties. The best tool available for discouraging development here at this time is the required setback from the dunes vegetation line.

Many homes are being built for speculative purposes. The problem of potential buyers' not being fully aware of the dangers of purchasing homes on the fragile western end of the island is omnipresent. On the other hand, the speculative process of building here has paid off for some owners because many homes have been amortized since the last of the very worst storm--Hurricane Hazel in 1954, when some 352 of the Town's 357 homes were destroyed.

During the past three years, interest in building on the lots to the north of Beach Drive and along Dolphin and Pelican Drives has increased noticeably. New homes, multi-family units, and four condominium projects have either been started or completed. Along the more protected Davis Creek and Canal and its associated marshlands, new homes are being built, particularly to the west of Middleton Avenue.

Traffic congestion in the beach area is moderate to constricting during the summer months. State maintained, two-laned Beach Drive, approximately seven miles long, is the only linear thoroughfare along the beach. The road serves both as a highway and residential street. Summertime congestion lessens noticeably to the west beyond 30th Place and then again to the west of 57th Place.

There are some 720 platted lots with ocean frontage. Of these 479, or 67 percent, are developed, and 241, or 33 percent, are lying vacant. There are 441 lots currently being used for single-family purposes with 13 now occupied by multi-family dwellings. Commercial activities use 24 parcels, and there is one maintained by the Town for recreational purposes.

Along Davis Creek and Canal and marshland, there are 466 platted lots. Only 86, or 18 percent, of these are in use currently while 380, or 82 percent, are vacant. There are 80 lots being used for single-family purposes, and one

parcel is earmarked for condominiums just east of Middleton Avenue. There are three commercial parcels. One is used for a recreational vehicle park, and the other two are occupied by the marina at 57th Place West. Two parcels lie in the public domain being used by the Town for the Middleton Avenue water tower and to provide access to the 19th Street East boardwalk and gazebo which crosses Davis Creek marshlands.

EXISTING LOT USE ANALYSIS
BY AREA

-- 1986 --

THE TOWN PROPER

	Total	Occupied	Vacant
EAST TOWN	1,026	779/76%	247/24%
- Single-family		196	
- Multi-family		1	
- Mobile Home		580	
- Commercial		2	
MID AND WEST TOWN			
Intracoastal Waterway and Marshside Lots	432	163/38%	269/62%
- Single-family		160	
- Multi-family		1	
- Public/Semi-public		2	
Davis Creek and Canal Lots	403	98/24%	305/76%
- Single-family		96	
- Multi-family		1	
- Public/Semi-public		1	
OAK ISLAND DRIVE COMMERCIAL AREA			
- Commercial	317	225/71%	92/29%

THE BEACH

Oceanfront Lots	753	501/67%	252/33%
- Single-family		461	
- Multi-family		14	
- Commercial		25	
- Public/Semi-public		1	
Davis Creek and Canal Lots	483	86/17%	397/82%
- Single-family		80	
- Multi-family		1	
- Commercial		3	
- Public/Semi-public		2	

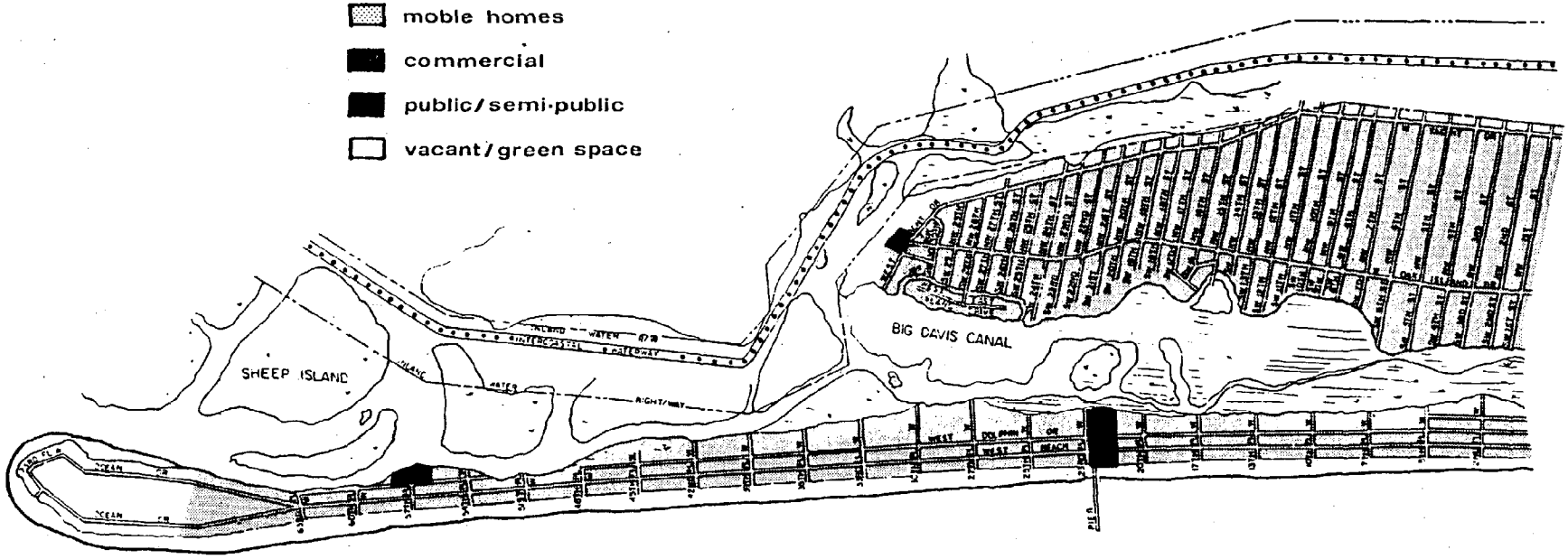
NOTE: The information in this and the following chart is derived from land use field survey and analysis conducted in November 1985 - March 1986. Virtually all lands in Long Beach are platted, except in three cases where commercial uses existed and in five cases where mobile homes existed prior to the adoption of zoning, lot use is consistent with current zoning.

12 A

PREDOMINANT EXISTING LAND USE 1986

1 inch = 2400 ± feet

- single-family
- multi-family
- moble homes
- commercial
- public/semi-public
- vacant/green space



LONG BEACH North Carolina [west]

psi

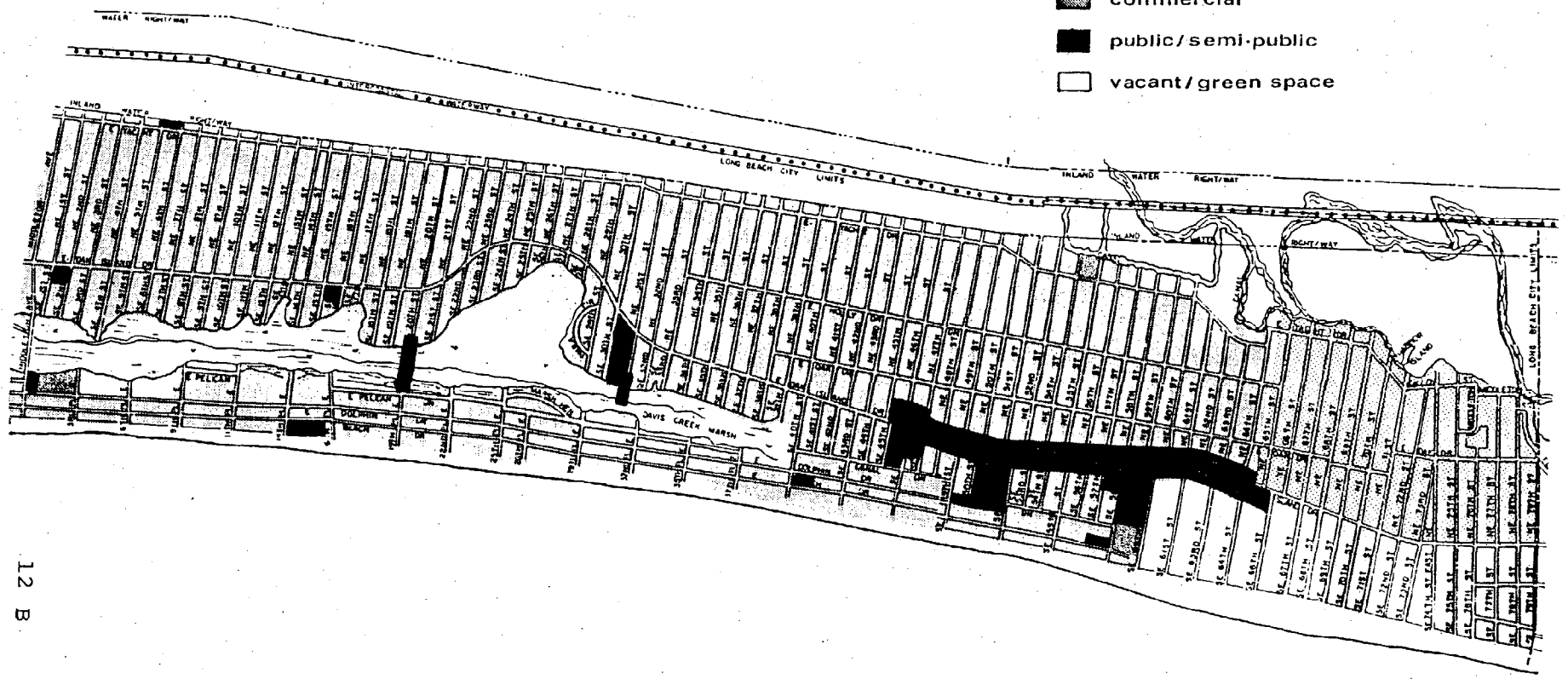
The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Resources Management Act of 1972, as amended, which is administered by the Office of Coastal Resource Management, National Oceanic and Atmospheric Administration.

1 inch = 2400 ± feet

PREDOMINANT

EXISTING LAND USE 1986

- single-family
- multi-family
- moble homes
- commercial
- public/semi-public
- vacant/green space



12 B

LONG BEACH North Carolina [east]

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EXISTING LOT USE ANALYSIS
BY USE TYPE
-- 1986 --

	Total	Occupied	Vacant
PLATTED LOTS	12,754	4,841/38%	7,913/62%
RESIDENTIAL	12,225	4,436/36%	7,789/64%
- Single-family		3,785	
- Multi-family		62	
- Mobile Home		589	
COMMERCIAL	467	349/75%	118/25%
- Oak Island Drive Area		225	
- Beach Area		121	
- Other		3	
PUBLIC/SEMI-PUBLIC	56	56	---

EXISTING LAND USE ANALYSIS

Long Beach consists of approximately 7.7 square miles of land area, of which 62 percent or 4.8 square miles is urban in nature. This area consists of 12,754 platted lots. Less than one percent of the unplatted land has the capacity for development, while another 37 percent of the Town consists of land in areas of environmental concern.

Residential

The bulk of land area in Long Beach is zoned for residential use. The existing Zoning Ordinance defines four residential districts within the corporate boundaries.

Because of the small size of residential lots in most of Long Beach (6,600-7,500 square feet) and because there is no public sewerage, many homes are built on clusters of 2-3 lots. In cases where there is no coordination in real estate sales, individual lots can be left by themselves between clusters. As septic systems are built in surrounding areas, the capacity of these individual lots can be diminished.

Approximately 36 percent of the platted residential lots have been built on, and 98 percent of these are single-family dwellings. The average lot size is approximately 7,000 suqare feet.

Commercial

Commercial property is very limited, approximately two percent of the urban land area in Long Beach is zoned commercial.

On Oak Island Drive there are some 300 20-foot frontage lots, 92 of which remain vacant. Several residual parcels remain in between buildings and on corners. In some cases these are not available for sale. In others, they are available, but not marketable because of their location and size.

Public and Semi-Public

Public and semi-public land uses in Long Beach are quite limited. These consist of Town Hall, Public Works area, Police Department, two fire stations, five parks and recreation facilities, two elevated water storage tanks, 54 public accesses to the beach, three churches, an electrical substation, and two service organization buildings.

Streets

There are three main streets running east-west through Long Beach. Beach Drive provides access to the beach lots between 58th Street East and the western end of the beach strand. Oak Island Drive runs through the center of the island and the principal commercial district, from the eastern town line to Pinner Point. Yacht Drive forms a broad arc around town as it provides frontage for lots along the Intracoastal Waterway and salt marsh. The principal north-south street is Middleton Avenue. This thoroughfare connects the three main east-west roads, providing the only automobile passage across the Big Davis Canal and Marsh.

The grid street system is conducive to thru traffic in residential neighborhoods. There are 60 of 147 north-south residential streets that run uninterrupted in a straight line without an intersection of 1/3 to 1/2 mile between Oak Island and Yacht Drives. There are 26 additional north-south streets that have straight stretches of at least 1/4 mile in length located primarily in Mid and East Town sections.

The grid system also makes for uninteresting residential settings and highly uneconomical patterns for providing municipal services.

On September 17, 1980, the Long Beach Board of Commissioners approved a thoroughfare plan. This plan was drawn up cooperatively by the Long Beach Planning Board and the Planning and Research Branch of the North Carolina Department of Transportation.

EXISTING LAND USE ANALYSIS
-- 1986 --

Use	Acres	Percent of Urban	Percent of Total
RESIDENTIAL	752a	32%	15%
-Single-family	647	27%	13%
-Multi-family	14	-1%	-1%
-Mobile Home	91	4%	2%
COMMERCIAL	37	2%	-1%
PUBLIC/SEMI-PUBLIC	17	-1%	-1%
STREETS	249	11%	5%
VACANT	1,298	55%	26%
TOTAL URBAN LAND	2,353a	100%	48%
TOTAL INCLUDING BEACHES AND WETLANDS*	4,900a		100%

*This acreage varies constantly--4,900 acres is an estimate.

DEVELOPMENT TRENDS AND MAJOR PHYSICAL PROBLEMS

SMALL LOTS

Growth for Long Beach through expansion of town size is limited by physical and political barriers: (1) the Intracoastal Waterway on the north and west; (2) Lockwood's Folly Inlet on the west; (3) the Atlantic Ocean on the south; and (4) the Yaupon Beach town limits on the east. There are currently approximately 12,754 platted lots in Long Beach; 7,913 of which lie vacant. These figures misrepresent the true picture of development because much of the vacant land lies in residential sections where there are small lots--6-7,000 square feet. Many homes are situated on two or more lots, and many have one, two, or more between them to serve as buffers making up for small lot sizes.

SEWERAGE

A serious constraint to contend with is the lack of sewerage. As the Town grows, problems have been on the increase. Local residents cite the seepage of effluent in ditches along streets in the East Town section of the community and the installation of septic tanks in holes dug for them that are already flooded.

The issue of sewerage and treatment facilities is before the Board of Commissioners. The Mayor has appointed a special committee to study the advantages and disadvantages and the financing possibilities of a sewer system for the Town. Decisions are expected within the fiscal year.

LAND USE COMPATIBILITY

The 1975 adoption and subsequent amendment (major rewrite and adoption in 1984-85) of a zoning ordinance in Long Beach has been instrumental in avoiding land use compatibility problems. Since its initial adoption, however, some non-conforming uses remain throughout the community. These are protected under "grandfather" provisions in the ordinance. Most cases are remaining mobile homes in residential districts where they are now restricted. Others are multi-family uses in districts where single-family homes are permitted exclusively.

LOSS OF OCEANFRONT LOTS

Since the enactment of CAMA's setback regulation in June 1979, Long Beach has had up to 100 lots which were classified as unbuildable at a given time. There are four different setback requirement areas. It is noted that during Hurricane Hazel in 1954, some 365 homes were lost in Long Beach, leaving one after the storm.

SETBACK REQUIREMENTS*

Lockwood's Folly Inlet to 66th Place West

small buildings	120 feet
large buildings	225 feet

66th Place West to 52nd Street East

small buildings	65 feet
large buildings	120 feet

52nd Street East to 76th Street East

small buildings	90 feet
large buildings	180 feet

76th Street East to 79th Street East

small buildings	120 feet
large buildings	225 feet

*Structures are labeled as "large" where they have five or more bedrooms or 5,000 square feet or more. Measurements for setbacks begin at the first line of natural stable vegetation.

Erosion along the coast will increase the number of unbuildable lots. At the present time the Coastal Resources Commission allows no variances for construction. This policy is supported by the Town of Long Beach.

UNSTABLE INLET

To the west of 48th Place West on the beach, land is very unstable. From this street, through the platted but no longer existing 70th through 73rd Places West to Lockwood's Folly Inlet, severe beach erosion is cutting into the

island forcing relatively new homes to be moved to safe land back across West Beach Drive. Even as this process takes place, new homes are on order or being constructed for speculation in the same highly vulnerable area. The physical constraints here are being ignored by owners and developers. And the Town has declared that it does not have the means to limit growth in this area that was platted years ago, because it cannot afford to compensate the owners for not being able to develop their properties.

STREETS

The Town's thoroughfare system also serves as a growth constraint. During the summer season, the streets and roads are unable to accommodate adequately the influx of traffic. Congestion is a prime issue, making the Town unattractive for potential vacationers and new residents. Access to Caswell, Yaupon and Long Beaches is gained by one two-lane bridge and causeway, which has an average annual count of 10,300 vehicles per day. This serves as an inconvenient and hazardous bottleneck. Ease of access is being diminished as each season passes and congestion increases. New commercial development in the vicinity of NC 87 and 133 also serve to worsen congestion.

Public beach access has not surfaced in recent years as a major problem. Long Beach operates 42 public access points at street ends with parking and "dune bridges". And the Town operates a large regional beach access facility at 48th Street East and Beach Drive.

Traffic congestion at 58th Street East and Oak Island Drive, the Town's busiest intersection (18,484 vehicles per day) in the 1985 vacation season. But this can be partly alleviated by filtering beach traffic back to Oak Island Drive via a number of designated streets rather than on just one in this section of the community.

BUSINESS DISTRICT

The primary business area is located in a strip on Oak Island Drive between 46th and 64th Streets East. In most situations, direct, unrestricted vehicular access is allowed to unpaved parking areas in front of businesses. Because setbacks in some cases are very small, backing out onto the street is a problem inhibiting the free flow of traffic. The middle, third lane provided in recent years has proven to be useful in allowing for smoother flow. Since access to establishments is generally unrestricted, however, the value and effectiveness of this turning lane improvement cannot be fully realized. Some new businesses are dealing with this problem by providing directed off-street parking accommodations with curb cuts, paving and landscaping.

AREAS OF ENVIRONMENTAL CONCERN (AECs)

In Long Beach there are two categories of AECs. It is the intent of the Town Commissioners and Planning Board to see that the designated areas are protected and that future development will not present any endangerment to the preservation of these natural resources.

Estuarine System AECs

The marshlands, creek and canal lying between 40th Street East and Lockwood's Folly Inlet present a great resource to the community in terms of beauty, greenspace, fishing, canoeing and boating, wildlife and environmental interpretation, and surface drainage. This area is replete with wildlife with reports

or alligators, bear, deer, and aquatic bird life. The Town has provided public access to this area via the boardwalk and gazebo crossing at 19th Place East and with the Tidal-Way Trails Park with access at the gazebo and dock at the foot of 31st Street East.

Ocean Hazard AECs

The oceanfront area extending for some 5½ miles from Yaupon Beach to Lockwood's Folly Inlet is the most important recreational attraction for the Town. This ribbon of fragile land is protected from urban development due to CAMA setback regulations which avoid important frontal dunes and vegetation vital to the preservation of the dunes. Public access to this resource is provided at 42nd Street ends where there are dunes bridges and offstreet parking facilities. A regional beach facility with protective boardwalk provisions is located at the Town Cabana at 48th Street East and Beach Drive.

CURRENT PLANS AND REGULATION

LOCAL CONTROLS

Building Codes

Currently, Long Beach is enforcing four elements of the State Building Code: structural, electrical, plumbing, and mechanical. A full-time building inspector is responsible for issuing permits, collecting fees and inspecting construction to ensure strict compliance with all code requirements.

Zoning

Zoning was adopted in the early 1970's and has been amended or modified to keep pace with the Town's growth. In 1983, the Planning Board recommended to the Town Board of Commissioners a rewritten ordinance, strongly reflecting local needs and desires and the land use plan as interpreted by the Planning Board. The new ordinance was developed over a year's time. After numerous hearings, the Commissioners adopted the new ordinance in 1984. Increased building activity can be attributed in part to the Commissioners' adopting a new, more comprehensive zoning ordinance.

Subdivision Regulation

The Town was platted on a grid system of streets when it was laid out by its founders. Recent subdivisions, with few exceptions, have continued to follow the pattern first developed in the 1940's. The exceptions to the pattern have been limited to subdivisions bordering Big Davis Creek and Canal, including: East and West Island Drives, 15th STreet West, Paula Circle, Shoreline Drive between 36th and 39th Places West, lands beyond 63rd Place West, and Marsh Hen Drive between 25th and 29th Places East.

Nearly all lands in the Town have been subdivided, leaving little opportunity for designing new streets and lots. Those unplatted areas that remain lie where there would be restraints such as flooding, washover, and disturbance of sensitive environmental conditions such as water bodies, spawning beds, rookeries, wildlife habitats, dunes, and important vegetation. One major area between 59th and 69th Streets East generally lying between the beach and Oak Island Drive has been designated as an Area of Environmental Concern (AEC) by the State of North Carolina.

The grid street system does lend itself well, however, to remedial modification which would discourage thru traffic in residential neighborhoods, promote

safety and higher security for property owners, and help to curtail encroaching flood waters in neighborhoods. These modifications could be made after circulation and access planning with relatively low expense over a period of years.

Subdivision regulations were adopted in 1974. The process for subdividing in Long Beach begins with the Planning Board and its recommendation. Final review is subject to the Town Board of Commissioners. Enforcement of the subdivision regulations is the responsibility of the building inspector and public works director.

Flood Insurance

A Flood Insurance Ordinance was adopted in May 1977. Enforcement is the responsibility of the building inspector. The Town participates in the Federal Flood Insurance Program.

CAMA

An ordinance controlling development in AECs was adopted in September 1977. Enforcement is the responsibility of the Town CAMA Officer.

Dune Ordinance

In October 1979, the Town enacted a dune ordinance for the protection of the barrier dunes. The ordinance covers areas where CAMA ocean regulations apply. Enforcement is the responsibility of the Long Beach CAMA Officer.

Transportation

Long Beach and the North Carolina Department of Transportation mutually adopted a Thoroughfare Plan in September 1980 for the orderly development of the street system. Implementation of the Plan has proceded as funding has been available. The Town is now in the process of updating that Plan within the context of the 1986 Land Use Plan Update.

Sewer

In 1985, the Mayor appointed a special citizens' committee to study the need, feasibility, and costs of a publicly or privately installed and operated sanitary sewer and treatment system.

Land Use

Long Beach is currently using the 1980 Land Use Plan and 1983 Growth Management Plan as a guide to the future. Upon adoption of this update of the Town's Land Use Plan, policies and provisions herein will take effect.

STATE CONTROLS

NRCD (Department of Natural Resources and Community Development, Division of Environmental Management and Division of Coastal Management)

1. Permits to discharge to surface waters or operate wastewater treatment plants or oil discharge permits; NPDES Permits, (G.S. 143-215).

2. Permits for septic tanks with a capacity over 3,000 gallons/day (G.S. 143 215.3).

3. Permits for withdrawal of surface or ground waters in capacity use areas (G.S. 143-215.15).

4. Permits for air pollution abatement facilities and sources (G.S. 143-215.108).

5. Permits for construction of complex sources; e.g. parking lots, subdivisions, stadiums, etc. (G.S. 143-215.109).

6. Permits for construction of a well over 100,000 gallons/day (G.S. 87-88).

7. Permits to dredge and/or fill in estuarine waters, tidelands, etc. (G.S. 113-229).

8. Permits to undertake development in Areas of Environmental Concern (G.S. 113A-118).

NRCD (Division of Land Resources)

1. Permits to alter or construct a dam (G.S. 143-215.66).

2. Permits to mine (G.S. 74-51).

3. Permits to drill an exploratory oil or gas well (G.S. 113-381).

4. Permits to conduct geophysical exploration (G.S. 113-391).

NRCD (Secretary's Office)

1. Sedimentation erosion control plans for any land-disturbing activity of over one contiguous acre (G.S. 113A-54).

2. Permits to construct an oil refinery.

Department of Administration

1. Easements to fill where lands are proposed to be raised above the normal high water mark of navigable waters by filling (G.S. 146,6(c)).

Department of Human Resources

1. Approval to operate a solid waste disposal site or facility (G.S. 130-166.16).

2. Approval for construction of any public water supply facility that furnishes water to 15 or more year-round residences.

Department of Cultural Resources (Division of Archives and History)

1. G.S. 121-12 (a) Protection of Properties in the National Register

2. State Environmental Policy Act, Article 1 of Chapter 113A of the General Statutes

3. Executive Order IVI

4. Indian Antiquities, G.S. 70.1-4

5. Salvage of Abandoned Shipwreck and other Underwater Archeological Sites: G.S. 121-22; 23; 143B-62(1) g, (3)

6. Archeological Salvage in Highway Construction, G.S. 136-42.1

7. Provisions for Cultural Resources in Dredging and Filling Operations, G.S. 113-229

FEDERAL CONTROLS

N.C. Department of Cultural Resources (Division of Archives and History)

1. National Historic Preservation Act of 1966

2. The Archeological and Historic Preservation Act of 1974, Public Law 93-291

3. Executive Order 11593, Protection and Enhancement of the Cultural Environment, 16 U.S.C. 470 (Supp. 1, 1971)

4. National Environmental Policy Act, Public Law 91-190, 42 U.S.C. 4321 F.L. Sept. (1970)

5. Community Development Act of 1974, Public Law 93-383: Environmental Review Procedures for the Community Development Block Grant Program (40 CFR Part 58)

6. Procedures for the Protection of Historic and Cultural Properties (36 CFR Part 800)

7. Comprehensive Planning Assistance Program (701) as Amended by Public Law 93-393

8. The Department of Transportation Act of 1966, Public Law 89-670

9. Identification and Administration of Cultural Resources: Procedures of Individual Federal Agencies

Army Corps of Engineers (Department of Defense)

1. Permits required under Sections 9 and 10 of the Rivers and Harbors Act of 1899; permits to construct in navigable waters.

2. Permits required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972.

3. Permits required under Section 404 of the Federal Water Pollution Control Act of 1972; permits to undertake dredging and/or filling activities.

Coast Guard (Department of Transportation) the Geological Survey Bureau of Land Managment (Department of Interior)

1. Permits for bridges, causeways, pipelines over navigable waters; required under the General Bridge Act of 1946 and the Rivers and Harbors Act of 1899.

2 Deep water port permits.

3. Permits required for off-shore drilling.

4. Approvals of OCS pipeline corridor rights-of-way.

Nuclear Regulatory Commission

1. Licenses for siting, construction and operation of nuclear power plants; required under the Atomic Energy Act of 1954 and Title II of the Energy Reorganization Act of 1974.

LAND SUITABILITY

To measure the suitability for development of all lands in Long Beach requires an analysis of soils and areas of environmental concern. This will give an indication of certain restrictions for development. Carrying capacity of existing and proposed community facilities must be considered also. And population growth and the estimated demand that it will place on future facilities is a prime factor in the calculations for growth and development as they are constrained by suitability and capacity.

SOILS

Development activities in Long Beach necessarily have to be restricted to those which do not significantly affect the balance of natural resources. Soil site maps are an important planning tool, available through the USDA Soil Conservation Field Office in Bolivia, the Brunswick County seat. It is the policy of Long Beach to use only updated and detailed soil data in making land use planning decisions and preparing land use plan updates. Soil type data and information can be found in the Soil Survey of the Outer Banks, North Carolina Part I. Text Material.

All soils are classified as having some degree of physical limitations for future development. This analysis is a guide for planning residential growth, engineering, public works, recreational facilities and community projects. It is not suitable for planning and management of a specific residence or lot, or for selecting exact locations for building roads, etc., because the soils in any one association ordinarily differ in slope, drainage, depth and other characteristics that could affect their management.

Soil Conditions

Various soils associations having similar properties are grouped together to identify their natural conditions as having either resource potential or specific development limitation. Such interpretations encompass certain established tests for physical and chemical properties, including:

Horizons - depth in inches of the major soil strata from surface to subsurface soils used to determine relative depth to water table and the soil chemical properties

Texture - based on the relative amounts of sand, silt, and clay in a soil, giving rise to textured classes such as sand, sandy loam, clay loam, and clay

Particle Size - based on the single soil unit and relates to shrink-swell potential, plasticity, and bearing capacity

Permeability - that quality of a soil that permits the movement of water and air--the rate of time it takes for downward movement of water in major layers when saturated, but allowed to drain freely

Structure - the arrangement and compaction of individual soil particles into the basic soil building blocks

Available Water Capacity - the ability of soils to retain water for plant use

Soil Reaction of ph - the degree of acidity or alkalinity

Coastal Floodplains are defined as the land areas adjacent to coastal sounds, estuaries, or the ocean which are prone to inundation from storms, with an annual probability of one percent or greater (100-year flood). Land uses must comply with standards of the Federal Insurance Administration. See the Composite Hazards Map on pages 30a & b. The flood zone designations used on the map are those accepted by the Federal Insurance Administration.

- Estuarine System Areas of Environmental Concern (AECs)
- Flood Zone A - areas of 100-year flood
- Flood Zone B - areas between the 100-year and 500-year flood limits
- Flood Zone C - areas outside the 500-year flood limits

The CAMA Area of Environmental Concern for Long Beach delineated on the Composite Hazards Map is the Ocean Erodible Area above the mean high water mark where excessive erosion has a high probability of occurring. In delineating the landward extent of this area, a reasonable 30-year recession line was determined based on the average annual erosion rate. Appropriate land uses in this AEC are recreation, conservation, and easements for access.

Soil Categories

Slight Limitations

Wando fine sands are excessively drained. Runoff is slow, while infiltration and permeability range from rapid to very rapid. The seasonal high water table depth is usually greater than five feet. Found on the higher ridges and flats on the sound side of the barrier islands, these soil areas are commonly too far from the ocean to receive large amounts of sea spray. They are found primarily in the Town Proper.

Kureb fine sands are excessively drained. Permeability is high, and available water capacity is very low, with a seasonal high water table below five feet. The soils are acid throughout and are found on the peninsulas between the Intracoastal Waterway and the dunes. These are found primarily in the Town Proper.

Very Severe Limitations

Bohicket Soils, low are poorly drained, clayey marsh soils. They are continuously wet, soft, and sticky. The soils are flooding daily with sea waters, and have a high water table ranging from zero to three feet. Found where rivers and streams empty directly into the ocean, the areas are limited for uses other than for wildlife, marine habitat, and aesthetic purposes. Generally, the soils are "acid sulfate" and therefore incapable of supporting vegetation. These are located in the Davis Creek/Canal area and in the marshes to the north of East Town.

Leon fine sands are sandy throughout with rapid percolation. The seasonal high water table is at or near the surface during periods of high rainfall but may drop below 40 inches during the drier seasons. The surface layer contains some organic matter and plant fiber. These are found interspersed at random in East Town and along the Intracoastal Waterway in Mid and West Town.

The Beach-Foredune association area includes both the beach and the "frontal dune". The beaches are flooded daily by tidal action and contain sand ranging from fine to very coarse with varying amounts of shell fragments. The foredune portion consists of a dune just landward and parallel to the beach. It is subject to severe erosion by wind and wave action in the absence of vegetation. Permeability is rapid for both areas and the high water table ranges from zero to three feet on the beach and up to six feet at the foredunes the length of Long Beach.

SEPTIC TANK PROBLEM AREAS

Safe disposal of human and domestic wastes is necessary to protect the health of the residents of Long Beach and to prevent the occurrence of a bad public nuisance. The principal method used in the Town to handle such wastes is the septic tank and filter field. To accomplish satisfactory, sanitary results such wastes must be disposed of so that they meet the following criteria as set by State Health regulations. They will not:

- contaminate any drinking water supply.
- give rise to a public health hazard by being accessible to insects, rodents, or other possible carriers which may come into contact with food or drinking water.
- give rise to a public health hazard by being accessible to children.
- violate laws or regulations governing water pollution or sewage disposal.
- pollute or contaminate the waters of any bathing beach, shellfish breeding ground, or stream used for public or domestic water supply purposes, or for recreation purposes.
- give rise to a nuisance due to odor or unsightly appearance.

These criteria can best be met by the discharge of domestic sewage to an adequate public or community sewage system. Septic tanks are generally considered as an interim solution for waste disposal in urban settings. They are used when a public sewage disposal system is non-existent or not immediately avabilable. When the above criteria are met and where soil and site conditions are favorable, however, septic tank systems can be expected to give satisfactory service. Experience has shown that adequate supervision and regular inspection and maintenance of all features of the system are required to ensure compliance in this respect. When waste input exceeds design capacity output, like in some beach areas during summer visitation, systems fail.

The Potential of Malfunctioning Septic Tanks

The potential of malfunctioning septic tank systems can be more than just a local problem within Long Beach, but an Oak Island problem as well. Occasionally, a septic tank system does not function properly and creates an environmental problem in an otherwise healthful neighborhood. A study conducted for Brunswick County has indicated that only a small percentage of the Town's total land acreage has been judged to be unsuitable for conventional septic tank systems. This does not take into effect the spatial arrangement of development on the better soils, but it does indicate some soils which cause septic tank failures. Failure would mean that either improperly treated sewage would be injected into shallow ground waters of the area, or that sewage effluent would appear on the ground surface at some time during the year to be washed into nearby surface waters with each subsequent rain storm.

Natural Causes of Failures

The most common cause of any septic tank failures in Long Beach is the installation of septic tank systems in soils which have seasonally high water tables. In these areas the lot receives a percolation test by the County Health Department Representative and if the climatic conditions are such that the soils "perc" because of a seasonally low water table, the system is then designed according to the present condition and the waste disposal system is installed. After some time, seasonal changes cause the water table to rise and the new system stops functioning. See page 51 .

Another cause of failure would be from the presence of an impervious layer which reaches a certain saturation point after a rain and retards the vertical movement of water. These layers may be hardpans (clays), sandpans, and organic stain layers. The unique situation in Long Beach is the fact that these impervious layers are scattered in a haphazard fashion and are somewhat unpredictable in determining their spatial arrangement. Percolation test points are not a good indication of well drained soils to be used for filter fields, because the test point may easily miss one of these layers that could be present in Long Beach.

Circumstantial Mistakes

It is all too easy to attempt to point the blame for the failure of septic tanks at individuals such as the builder, the septic tank installer, the Health Department Official, the home owners, or some other state or local official. It is true that all of these people may make mistakes from time to time which can result in a septic tank failure.

Long Beach could get in such a predicament because it is growing and more demands are placed on the septic tank regulation entities. With this additional pressure for growth, the following errors are commonly made:

1. Lots with high water tables, which should have never been approved by the local department and the soil scientists are approved, because the lot was inspected during the dry seasons.

2. Percolation tests which are not done properly because of limits on time and manpower are the beginnings of septic failures. Examples of this situation are not enough percolation test points, and test holes which were not saturated the day before readings are made. Most of these shortcuts are used only where work loads increase and result in the improper analysis of the proposed building lot.

3. If this percolation rate is in error, the design of the septic system is in error, also. Usually this results in a wastewater absorption system that is too small for the moist conditions that actually exist. In addition, many of the systems are placed too deep and the drainage lines become flooded from a rising water table.

4. Small lot size is another varaible that restricts the effectiveness of a septic tank filter field by demanding smaller absorption field areas so the drainage system can stay within the boundary of the lot.

5. Septic tank system installation is a very important business to ensure a functioning system. It is necessary to dig to the correct depth, place in the right drain tile, with the proper grade, on top of the most efficient filter gravel in the absorption trench, to match the individual site needs. All too often one of these important variables is overlooked.

6. Finally, maintenance and proper operation of the finished septic tank system by the homeowners or occupants is a most important variable to ensure a functioning, "healthy" system. Too often the wrong chemicals and objects are flushed into the tanks and too heavy an overload is placed on the capacity of the filter fields to absorb the waste waters.

Controls

Direct Regulation. This method of controlling the problem of septic tanks is being utilized by the County Sanitarian. Local health officials guide the installation of a septic tank system according to State Board of Health Regulations which are incorporated into the Brunswick County Ordinance.* There are many variables involved, and it is a complex system to regulate.

Long Beach does not currently have any severe septic tank problems, but due to its residential growth and proximity to many environmentally fragile areas, it could develop public health problems in regard to septic tank systems. Although systems are functioning properly, there may be detrimental effects on the quality of ground and surface waters by too rapid filtering action in the coastal sands.

FRAGILE AREAS**

Long Beach recognizes that certain areas within its corporate boundaries are environmentally fragile and should be protected from development. In compliance with the Coastal Area Management Act, Areas of Environmental Concern (AECs) have been designated for the Town. These are listed in the following.

Coastal Wetlands

There are numerous creeks, channels and ponds assocatied with adjacent marshlands, which comprise valuable brackish and saltwater wetland areas. Because of the Intracoastal Waterway and Lockwood's Folly Inlet, the flow of all the creeks and channels in Long Beach is interconnected to a certain degree. These wetland areas can be divided into four sections, three saline systems and one brackish.

In the southeastern section of the community is a brackish pond and marsh system located immediately behind the frontal dunes, ranging from 58th Street East across the Yaupon Beach town line. The ponds are drained by a small

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*Brunswick County Board of Health Regulations

**This section was taken from information produced by the N.C. Coastal Resources Commission and the U.S. Army Corps of Engineers.

canal which flows westward into the Big Davis Canal. The overall wetness of the pond area, its susceptibility to washover from the ocean, and the high erosion rates of the beaches here have probably contributed to the fact that much of the area lies undeveloped. The pond area is important to the Town both for the prime waterfowl habitat it provides and for its potential value as a natural scenic recreation resource.

The three remaining wetland areas of Long Beach are saline marshes and tidal flats characterized by very poorly-drained soils dominated by marsh grasses.

For the purpose of better defining their significance, tidal marshes can be divided into two categories: low tidal and high tidal marshes. Low tidal marshland is defined as that consisting primarily of Spartina alterniflora and usually subject to inundation by the normal rise and fall of lunar tides. The particular significance of the low marsh is based on its high yield to the estuarine waters of organic detritus, which serves as a primary food source for various species of both finfish and shellfish, such as menhaden, shrimp, flounder, oysters, and crabs. The roots and rhizomes of Spartina alterniflora serve as waterfowl food, and the stems as wildlife nesting materials. Low tidal marshes also help to retard shoreline erosion.

High tidal marshland is subject to occasional flooding by tides, including wind tides, and is characterized by a variety of marsh grasses, including Juncus roemerianus and various species of Spartina. The high marshes also contribute to the detritus supply of the estuarine system and support a diversity of wildlife types. These marshes function as effective sediment traps and as a further deterrent to shoreline erosion.

The Elizabeth River-Dutchman's Creek-Dennis Creek Estuarine Complex extends from the extreme northeastern end of Long Beach to the south and west of Southport. This complex is characterized by oyster flats, worm and clam flats, and highly productive low salt marsh which contributes significantly to the food base of many types of estuarine communities.

Beginning at 40th Street East and extending westward to Montgomery Slough, the Big Davis Canal estuary separates the wooded residential areas of Long Beach (Town Proper) from the oceanfront lots (Beach). The Big Davis system is characterized by both low and high marsh species including small shrubs along its southern boundary.

The Big Davis Canal estuary grades into the Montgomery Slough-Eastern Channel-Lockwood's Folly Inlet estuary complex in the vicinity of Pinner Point. Eastern Channel is shallow with deposited mud and sand form a plug, restricting water movement into and out of the channel area. As a result, the sands and muds are often exposed at low tide. Montgomery Slough is deeper, with a network of shallow tidal creeks and wide areas called "cordgrass marsh". The slough area is classified as a primary nursery area by the State of North Carolina's Division of Marine Fisheries, signifying that the area is never opened to commercial fishing because of potential danger to estuarine resources. The Lockwood's Folly Inlet is characterized by broad expanses of mud flats, exposed at low tides and covered by intertidal oysters and broad expanses of regularly flooded low salt marsh.

Portions of the Lockwood's Folly Inlet, Montgomery Slough, and the Big Davis Canal estuaries are controlled by the State of North Carolina as Oyster Management Areas. The State regularly places shell in this area to furnish suitable "attachment material" for oysters.

Estuarine Waters and Shorelines

The estuarine waters that surround the coastal wetlands in Long Beach are some of the most productive natural environments in the area and support many finfish and shell fish species for all or part of their life cycles. According to the statutory definition, estuarine waters in North Caorlina include all of the waters of the Atlantic Ocean within its boundaries, and all of the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between Commercial Fishing Waters and Inland Fishing Waters; the dividing line between these waters has been established for each body of water by agreement between the N.C. Department of Natural Resources and Community Development and the N.C. Wildlife Resources Commission (G.S. 113-229(n) 92). All of the surface waters in Long Beach are within Commercial Fishing Waters and, as such, are designated estuarine waters of North Carolina.

Estuarine Shorelines, although characterized as dry land, are considered a component of the estuarine system because of the close association with adjacent estuarine waters. Estuarine Shorelines are those non-ocean shorelines which are especially vulnerable to erosion, flooding, or other adverse effects of wind and water and are intimately connected to the estuary. This area extends from the mean high water level or normal water level along the estuaries, sounds, bays, and brackish waters as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Natural Resources and Community Development for a distance of 75 feet landward.

Public Trust Areas

The State of North Carolina supports the traditional public rights of access to, and use of, lands and waters designated as Public Trust Areas for purposes such as: navigation, fishing, and recreation. Public Trust Areas include estuarine waters, navigable water bodies to their "ordinary" high water marks, and all lands beneath these waters. The State allows appropriate private development within Public Trust Areas, provided the development is not detrimental to public trust rights.

Ocean Hazard Areas

This broad grouping is composed of AECs that are considered to be natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or other adverse effects of sand, wind, and water, uncontrolled or incompatible development could unreasonably endanger life or property. Ocean hazard areas include beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative and soil conditions indicate a substantial possibility or excessive erosion or flood damage. The ocean hazard system of AECs contains all of the following areas:

Ocean Erodible Area. This is the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The seaward boundary of this area is the mean low water line. The landward extent of this area is determined as follows:

a. A distance landward from the first line of stable natural vegetation to the recession line that would be established by multiplying the long-term annual erosion rate, as most recently determined by the Coastal Resources Commission, times 30, provided that where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set landward from the first line of stable natural vegetation (see the table on page 17); and

b. A distance landward from the recession line established in (a) above to the recession line that would be generated by a storm having a one percent chance of being equalled or exceeded in any given year.

The High Hazard Flood Area. This is the area subject to high velocity waters (including, but not limited to, hurricane wave wash) in a storm having a one percent chance of being equalled or exceeded in any given year, as identified as zone V1-30 on the flood insurance rate maps of the Federal Insurance Administration, U.S. Department of Housing and Urban Development, and as shown in the following maps V flood zone.

Inlet Hazard Area. The inlet hazard areas are those lands identified by the State Geologist to have a substantial possibility of excessive erosion that are located adjacent to inlets. These extend landward from the mean low water line a distance sufficient to encompass that area within which the inlet will, based on statistical analysis, migrate, and shall consider such factors as previous inlet territory, structurally weak areas near the inlet (such as an unusually narrow barrier island, an unusually long channel feeding the inlet, or a washover area), and external influences such as jetties and channelization. These areas are identified as recommended inlet hazard areas in the report to the CRC entitled "Inlet Hazard Area" by Loie J. Priddy and Rick Carraway (September 1978). In all cases, this area shall be an extension of the adjacent ocean erodible area and in no case shall the width of the inlet hazard area be less than the width of the adjacent ocean erodible area.

The following development standards applicable to all AECs have been established:

AEC Development Standards

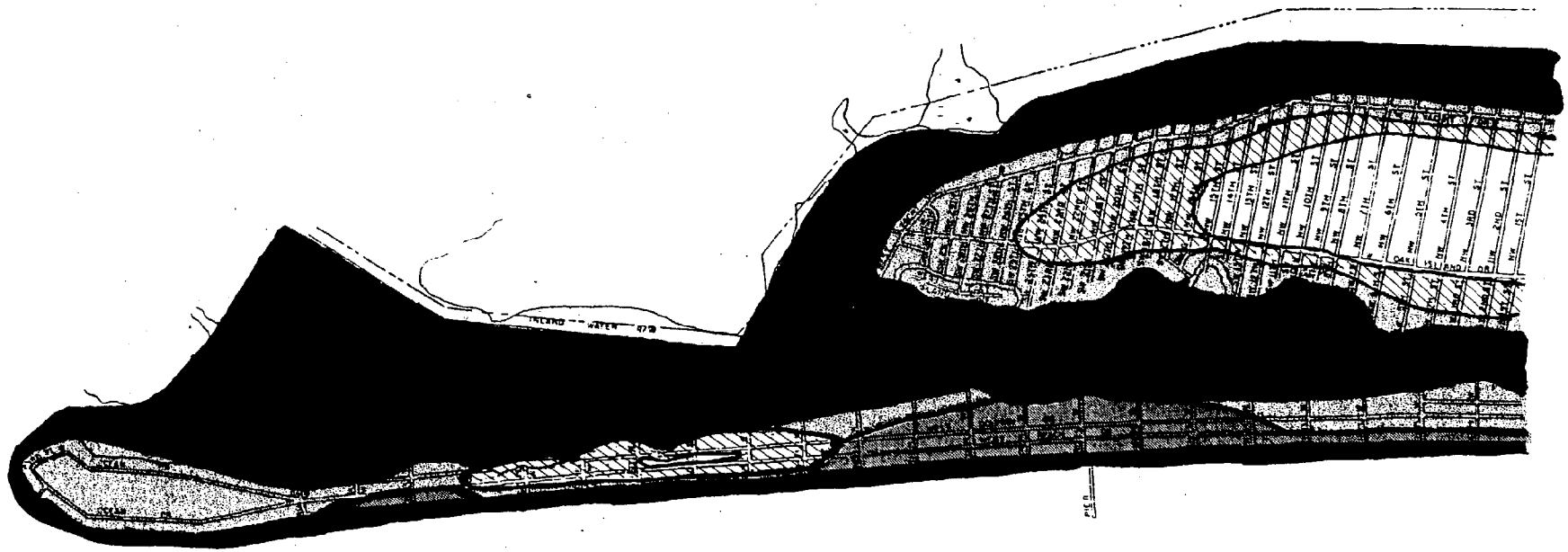
No development shall be allowed in any AEC which would result in a contravention or violation of any rules, regulations, or laws of the State of North Carolina or of local government in which the development takes place.

No development should be allowed in any AEC which would have a substantial likelihood of causing pollution of the waters of the State to the extent that such waters would be closed to the taking of shellfish under standards set by the Commission for Health Services pursuant to G.S. 130-169.01.

COMPOSITE HAZARDS

AECs
V flood zone
A flood zone
B flood zone
C flood zone

1 inch = 2400 ± feet



30 A

LONG BEACH North Carolina [west]

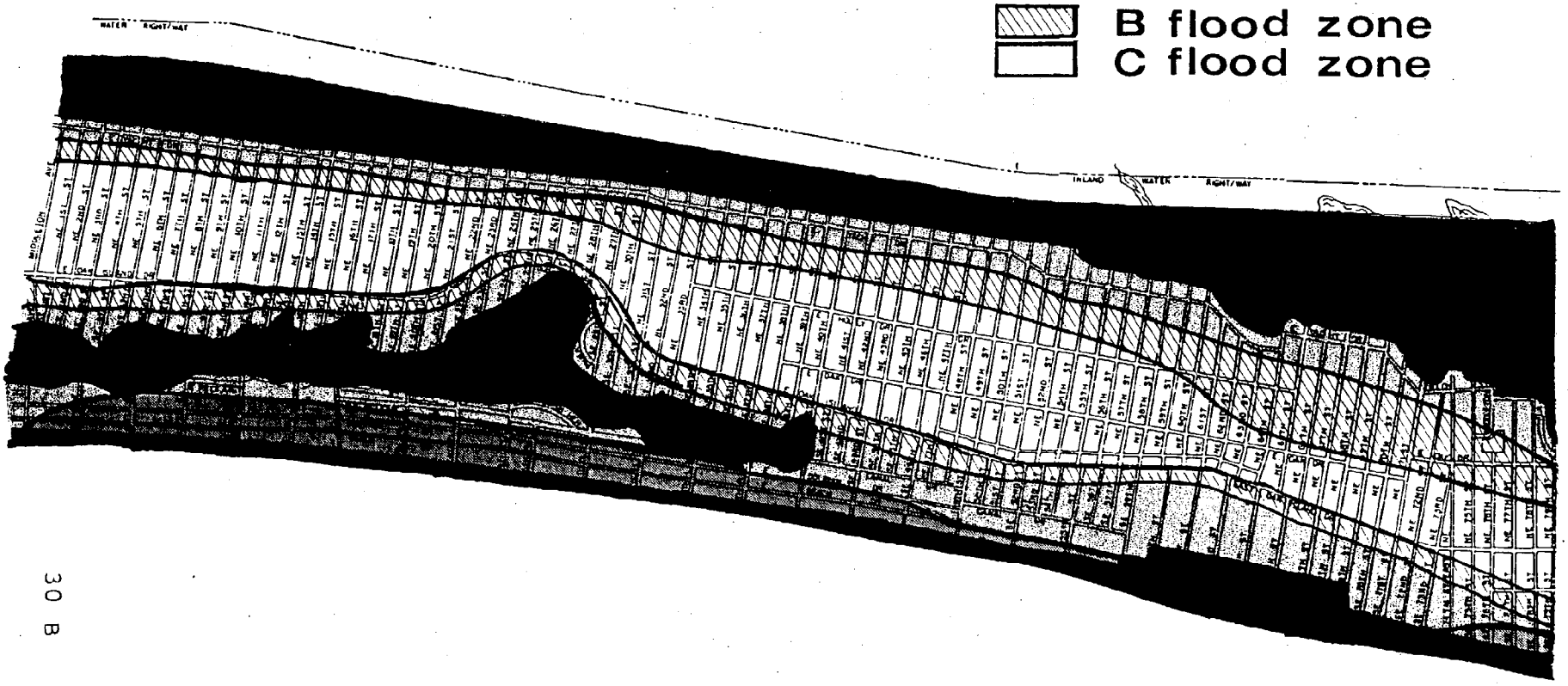
The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Resources Management Act of 1972, as amended, which is administered by the Office of Coastal Resource Management, National Oceanic and Atmospheric Administration.

1 inch = 2400± feet

n

COMPOSITE HAZARDS

- AECs
- V flood zone
- A flood zone
- B flood zone
- C flood zone



30 B

LONG BEACH North Carolina [east]

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Resources Management Act of 1972, as amended, which is administered by the Office of Coastal Resource Management, National Oceanic and Atmospheric Administration.

COMMUNITY CAPACITY

EXISTING AND PROPOSED FACILITIES

The future growth of Long Beach is dependent upon town government, in cooperation with county, state and federal agencies, to provide either the funding or the actual services to meet the needs of the community. Since public facilities or services such as water, sewer, and solid waste disposal, are an important part in future development, an assessment of existing facilities and future demands needs to be prepared.

Water System

Long Beach purchases all of its water from Brunswick County which presently has the ability to supply its customers countywide with 6 MGD (million gallons of water per day).

Long Beach customers presently use on a 12-month average .75 MGD with a peak demand (usually in August) of 1.75 MGD and a minimum demand (usually in December) of .48 MGD.

The water system is composed of about 100 miles of lines which vary in size from 14 inches to 2 inches. There are two elevated storage tanks with a capacity of 300,000 gallons each. Lines afford each property owner with water availability and fire protection.

There were 3,924 billed metered connections serving 3,779 residences February 1986. At this time there were 534 mobile homes and 86 commercial establishments.

The Town's ordinances require each existing structure and any future construction to be connected to the Town's public water supply. This essentially eliminates the possibilities of using contaminated ground water supplies at each structure.

Sewage Disposal

Long Beach is currently using septic tanks as its only method for sewage disposal. Overall, population densities are low, but between 64th and 79th Streets East, where there are many mobile homes on small lots, densities are much higher. High water tables resulting from heavy rains could bring bacteria and nutrients to the surface where they could run off into waterways. This potential pollution, along with stormwater runoff would be injurious to shellfishing.

Pollution of some estuaries, water tables, and shallow aquifers could result if population density were to continue to increase at the same rapid rate as it has over the past five years. Several areas have been closed to shellfishing, due, in part, to contamination by Lockwood's Folly River and Shallotte River.

From 1975 to 1980, Long Beach experienced a growth rate of 18.4 percent in residential and commercial construction, and from 1980 to 1985 the population is estimated to have increased at a rate of 28 percent.

In 1986, the Mayor established a study committee to provide recommendations to the Town Board of Commissioners on whether to proceed in the area of sanitary sewer for the Town. Proposals as to the options to pursue will be made in 1986-87.

Solid Waste

In 1986, Long Beach contracted with a private firm to remove solid waste. After studies, it was determined that privatization of this service would be more economical. The compactor truck runs were up to 30 miles round-trip to the county-owned sanitary landfill on U.S. 17. The Town's policy is to pick up garbage and trash at curbside from residences once per week during the winter and twice per week during the summer.

Community Service Facilities

The provision of community service facilities in Long Beach is complicated by two factors. First, Oak Island is geographically isolated from the rest of Brunswick County, being connected to the mainland only by the Oak Island Bridge. Second, Brunswick County is the second largest county in land area in North Carolina and is basically rural.

All County services, such as Social Services, Health, Veterans Administration, Agriculture Agency and Court system, are located at the County Government Complex in Bolivia, which is 40 miles round-trip from Long Beach.

Although there are no schools in Long Beach, area facilities are adequate and have long-range use capacity. South Brunswick Middle School has recently replaced Southport Middle and this new facility also has long-range use potential, with capacity not being expected until 1990 with expansion capabilities as practical physical plant extension, serving as solutions to growth.

The Town of Long Beach and the North Carolina Department of Transportation adopted a Thoroughfare Plan in 1980 for the orderly development of highway and street system in the Long Beach area. This plan continues to be adequate for long-range use. A one-way system for circulation in the Beach section of the community is now under consideration. Three-laning of Oak Island Drive section where left turning traffic may now be moved from the mainstream of flow. This is only a temporary solution, however, Separation of parking and thru traffic will be a necessity by 1990. This will require curb and gutter and four-laning. See implementation strategies.

The Water System for the Town was installed in 1977. Each platted lot in the Town has the availability of water. If, in the future, there are new sub-divisions, the developer will furnish the water as specified by the Long Beach Subdivision Regulations.

Dosher Memorial Hospital, in Southport, is the only medical facility within the immediate area. Dosher Hospital completed a $3.2 million expansion program in 1980. It is a 40-bed facility.

POPULATION PROJECTIONS

Population projections are merely estimates based on the assumption that the general conditions at the time of projection will remain stable. The projections are the basis for most planning decisions involving future needs for services and facilities. It is important to note that Long Beach has both a permanent and seasonal population. The combination of the two as well as the estimates of the individual groups are important in the planning process.

The following are population projections based on studies prepared for the Southeastern Brunswick County 201 Facilities Plan by Consoer, Townsend and Associates. It should be noted that 1980 Census figures for Long Beach have exceeded the projections.

POPULATION PROJECTIONS
(Permanent Population)

Year	Long Beach
1986	2,747
1990	3,249
1996	4,076
2000	4,627
2010	6,000

POPULATION PROJECTIONS
(Seasonal Population)

Year	Peak-Week - Per Day
1986	25,000
1990	27,000
1996	31,800
200	35,000
2010	48,000

TOTAL POPULATION IN SEASON

Year	Total
1986	27,747
1990	30,249
1996	35,876
2000	39,627
2010	54,000

The above projections were used because the latest N.C. Department of Administration population projection was given in 1984. That estimate for July 1, 1984 was 2,548. The 1980 census for the Town of Long Beach was 1,795.

Population Projection Methodology

Population estimates were derived from history of growth (U.S. Census and DOA), water meter information from the Town of Long Beach, building permit history, and straight-line extrapolations. Forecasted populations for 1990, 1996, 2000, and 2010 were developed with simple straight-line projection procedures.

ESTIMATE DEMAND

There are three factors which might have an effect on future land use or the need for services and facilities: (1) increases in seasonal and permanent population; (2) local policies concerning growth and the type of growth; (3) social and economic changes.

Population Increases

As previously indicated, Long Beach is growing in both its permanent as well as its seasonal population. This growth will place a demand on the community water system in two areas. First, there will be the need for larger quantities of water on a daily basis. This need will have to be met with the cooperation of Brunswick County in its ability to meet continually increasing demands. Virtually all of Long Beach is served by water, but the Town may in the future have to build a third elevated water tank for increased storage capacity as permanent residential development continues in the Town Proper area and as seasonal residential increases continue in the beach area.

Increased population also means new housing which means more septic tanks. As the number of septic tanks increases, so will the possibility of pollution to estuarine waters. One solution to this problem will be a sewage disposal system which is currently under study by a special Mayor's committee. Other alternatives must be investigated as well, such as minimizing impervious surfaces.

Another problem with growth will be solid waste disposal. A private contractor provides garbage and trash pickup services once a week during fall, winter and spring months and twice a week during the summer. At the present time, Brunswick County operates a sanitary landfill on U.S. 17 between Supply and Bolivia, approximately 30 miles from Long Beach. Both the County and Town, along with Yaupon Beach, Caswell Beach, and Southport, will need to take account of this increasingly critical situation because of the increasing difficulties of finding places for garbage and trash burial and because of the 60-mile round-trip hauling distance.

Local Policy Concerning Growth

At the present time, Long Beach's policy toward growth is one which favors the conventional single-family housing unit. There is adequate land for this purpose. But to support this aim, there is also a need for commercial establishments to support the public need for goods and services. There is a limited amount of commercially zoned property in a central location to meet the development of such establishments as a shopping center. Local growth policies will certainly influence the decision for a sewage disposal system. Policy changes concerning growth have made it necessary to expand recreational facilities.

Social and Economic Changes

With the present high cost of single-family dwellings and current trends toward multi-family units, Long Beach is preparing itself for the trend by carefully allowing for the construction of multi-family units within the context of the restrictions in its zoning ordinance, i.e., no more than 35 feet in height.

The growth of Long Beach as a permanent residential community will place demands on community facilities such as schools, hospitals, etc. But since these facilities are not located within Long Beach, it will be up to the local government to voice its concerns to the appropriate governments and agencies.

So far as a population increase is concerned, the Town of Long Beach at its current growth rate has a more than adequate amount of platted land available for the next 10 years.

PUBLIC PARTICIPATION

An important ingredient of land use planning for a community is maximum feasible public participation. Several modes have been used in Long Beach since 1979. These include: (1) using questionnaires to seek out the direction and receive the input of the people; (2) holding community meetings such as Futurama held on February 25, 1984 and the Town Meeting of March 5, 1986; (3) conducting a planning policy workshop on March 15, 1986; and (4) advertising all planning board meetings as open to the public.

QUESTIONNAIRES

In 1979 and 1986, Long Beach conducted surveys through the use of questionnaires sent out to three different categories of residents and land owners. Color-coded to identify the returns, they were sent to permanent residents, seasonal residence owners, and vacant land owners.

In 1979, 750 permanent residents received questionnaires and 265, or 35 percent, were returned. While in 1986, 1,300 were sent out and 318, or 24 percent, were returned. In 1976, 250 seasonal residence owners were sent the survey and 102, or 40 percent, were sent back with the 1986 figures being 3,500 sent out resulting in a 797, Or 27 percent, return. In 1976, 250 vacant land owners were sent the questionnaires with 50, or 20 percent, coming back in, compared to 1986 when 2,000 were mailed out with 516, or 26 percent, returned.

1979 Questionnaire Results

In each of the three categories (permanent residents, seasonal residence owners, and vacant land owners), the opinions were the same in most cases or only differed slightly. This being the case, the surveys were tabulated, and the results reflected the total response. Further steps were taken to ensure public input with articles published in local weekly newspapers and with six monthly planning board meetings open to the public.

The following is an analysis of the opinions and concerns of 32 percent of the property owners or residents.

Major Problems Facing Long Beach

1. Lack or Year-round employment opportunities
2. Poor roads and traffic control facilities
3. Lack of municipal sewer system
4. Beach erosion
5. Lack of good shopping areas

Major Advantages to Living in Long Beach

1. Lack of crowded living conditions
2. Closeness to beaches
3. Low taxes

Public Facilities and Services. Respondents were asked to rate eleven Town services on a scale of 1 to 5 with one being worst and five being best. Police, Fire, Rescue and Refuse Collection received high marks while Streets and Zoning Administration received the lowest marks. The other areas of Town services rated were Town Management, Water Service, Recreation, Building Inspection, and Planning.

Future Development. Respondents were asked about the type of development they wished to see in Long beach. Both permanent and seasonal development was encouraged with permanent development slightly favored. Single-family, commercial, and tourist-related development were encouraged while industrial, multi-family, condominiums, and mobile homes were discouraged. The following is a listing of the responses to the questionnaires.

Type	Encouraged	Discouraged
Permanent residential	374	5
Seasonal residential	288	48
Single-family dwelling	367	9
Duplexes	136	187
Multi-family	61	274
Commercial	187	112
Mobile Homes	45	303
Condominiums	90	267
Industrial	99	259
Tourist-related businesses (hotels, restaurants)	252	70

Polluted Shellfish Areas. Since some shellfish areas adjacent to Long Beach are closed to harvesting due to pollution, respondents were asked which method they would support to clean up these areas. A total of 41 percent preferred construction of a sewage treatment facility; 41 percent preferred prevention of building near wetlands (within 75 feet); 15 percent preferred increased lot size requirements. The remaining three percent suggested various alternatives for dealing with the problem.

Beach Erosion. In the questionnaire, the public was briefly explained CAMA setback regulations and asked for their opinion on the issue. A surprising 70 percent agreed with the regulations and responded by supporting their enforcement. Twenty-two percent felt that property owners should be allowed to build closer in the AECs, but not allowed to get federal flood insurance if they chose to do so. Three percent felt the regulations should be cancelled and five percent gave various solutions to the problem.

Beach Access. Respondents were asked if they considered beach access to be a problem and which way would they support improvement in these areas. Sixty percent felt the access areas needed improved parking facilities, while 36 percent felt that more catwalk construction was needed.

Emergency Preparedness. Is Long Beach prepared to handle emergency evacuation? Forty-eight percent answering said Yes and 52 percent said No.

Second Bridge. The public was asked if they would support the construction of a second bridge to the mainland at the west end of Oak Island Drive. Eighty percent said Yes; 20 percent said No.

Net Fishing. The public was asked if they favored net fishing. Thirty-six percent favored net fishing, while 29 percent did not favor it. Thirty-five percent favored it if it was allowed in a designated area.

Oak Island Merger. When asked whether they supported the merger of Long Beach, Yaupon Beach, and Caswell Beach, 74 percent supported the idea while 26 percent disagreed.

Erosion and Lockwood's Folly Inlet. The public was asked if they would be willing to spend money to help preserve the washing away of the west end of the island at Lockwood's Folly Inlet--72 percent responded against it and 28 percent responded favorably.

Long Beach has lost a considerable amount of valuable residential and recreational land at the inlet due to erosion. The amount of land lost amounts to approximately five acres. If it is feasibly possible to use erosion control methods in the future, the Town would support the project.

1984 Futurama Results

The Town of Long Beach conducted Futurama on Saturday, February 25, 1984, from 10:00 a.m. until 2:00 p.m. at the Recreation Center. A barbecue lunch was provided for the participants. The heavily advertised event attracted some 166 participants, an estimated eight percent of the Town's population. Given the beautiful weather and a number of competing events, the turnout was considered to be excellent. The purpose of Futurama was to solicit the uninhibited thoughts and ideas of the residents of Long Beach on issues of growth, development and the future. The results were published on May 1, 1984, in a text titled Futurama, financed in part by CAMA.

The Mayor welcomed seven groups of participants ranging in size from 15 to 44 on the half hour. Planners presented each group with facts and figures about the Town with projections, using numerous charts, graphs, and maps which the participants were encouraged to study before each session. Participants then were ushered to one of three brainstorming sessions led by several Planning Board members. At the end of 20 minutes of brainstorming, people were given questionnaires prepared by the Town staff. The purpose of these was to rank 18 issues as high or low priority that the Town Board of Commissioners and the Town Planning Board had identified as important to them in similar brainstorming exercises on October 27, 1983.

Both the brainstorming and questionnaire results were analyzed, comparing outcomes as appropriate. The products of these adventures in citizen participation were used with analyses, goals and objectives setting, and policy recommendations for formulating the 1984 Growth Management Plan for Long Beach, financed in part with a grant from CAMA.

Brainstorming. Two steps were taken to provide understanding of the products of the 15 brainstorming sessions.

The 419 recorded thoughts of all sessions were listed.

These were synthesized into 25 categories for analysis purposes. The thoughts in each category were then ranked by frequency of being mentioned, including one category listed as miscellaneous to count some 11 items that received only one vote each and did not fit into any of the 25 categories. The "top ten" categories were analyzed.

For instance, the Recreation Facilities category consists of entries basically relating to Recreation Center expansion and completion, bowling, bingo, more entertainment, better playground equipment, a youth center, recreation for young people, swimming pool, etc. The Improved Police Patrol category consists of beach patrol, crime prevention, mounted police, walking police, etc. The thoughts and ideas are sometimes recorded in more than one category, such as in Better Traffic Control and Parking and in Street Paving/Maintenance/Lighting. The thought categories with frequency of mention are given here:

RANK	COUNT	
1	59	Growth Management and Planning for the Future of Long Beach
2	54	Promote Clean-up and Litter Control/Beautification
3	40	Better Traffic Control and Parking
3	47	Recreation Facilities
4	32	Second Bridge
5	25	Street Paving/Maintenance/Lighting
5	25	Trails and Bikeways
6	22	Water/Sewer/Drainage/Septic Tanks
7	18	Preservation of Natural Areas
7	18	Educational and Cultural Programs and Facilities
8	14	Commercial Development
8	14	Efficiency in Government/Holding the Tax Line
9	13	Better Development Controls
10	10	Improved Police Patrol
11	9	Public Boat Ramps and Marinas
12	7	Enforce the Animal Leash Law
12	7	Additional Beach Access and Facilities
12	7	No More/Fewer/Control Bars and Public Drinking
13	6	Unifying and Establishing Cooperation Between the Three Towns
13	6	Establish Emergency and Regular Medical Facilities
14	5	Build a Post Office
14	5	Establish Public Transit
15	4	Evacuation Planning for the Town/Island
15	4	Levy a Motel Tax/Rental Tax
16	3	Build a New Town Hall
17	2	Require All Underground Wiring
17	2	Set Up and Enforce Priority Fire Districts
18	11	Miscellaneous

The Futurama Questionnaire. Some 166 people completed the questionnaire distributed to the participants at Long Beach's Futurama Day. Each person who heard the presentations of the Mayor and planners for the Town, and who participated with planning board members in the following brainstorming sessions, were given the questionnaire to fill out in return for a barbecue lunch ticket. Tabulations of results are shown on the following page.

Participants had an opportunity to judge a list of 18 items which had been identified a joint Town Board of Commissioners and Planning Board Brainstorming Session on the evening of December 15, 1983. The participants were asked to give the 18 items a priority ranking.

Assuming for the purposes of this analysis that by circling the number 3 in any of the 18 items listed, it meant that the participants were neutral as to whether the item should be considered to be of high or low priority, the following formula was used to attain an overall ranking of the items: high count (1 + 2) - low count (4 + 5) = Composite Ranking. The occurrence of circling of 1's and 5's was much greater than the circling of 2's and 4's, respectively indicating that the participants in the main had formed opinions about most of the items.

The participants tended to consider most items with a sense of urgency and concern, lending high credibility to the priority items that were identified by the Town Commissioners and Planning Board in their joint brainstorming session. There was strong evidence here that the Commissioners and Board were in close accord with the people in their thinking about the needs and future of the Town of Long Beach. Since number 1 (high priority) with a total count of 1,305, and number 3 (neutral) with a total count of 1,009, occurred well ahead of number 5 (low priority) with a total count of 732, it was assumed with care through this 7-9 percent sampling (166 participants) of the Town's population*, which participated in filling out the questionnaire, that the general population the Town generally had about the same feelings concerning the 18 matters as the Town Commissioners, Planning Board, and participants at Futurama Day.

The Top Five Vote Getters ranged from 109 to 95 votes, respectively, Clean-up, Drainage and Erosion, Growth Management and Planning, Traffic Control, and a Second Bridge were the five top priority items listed by the participants in composite priority ranking. In all cases, except for the Second Bridge, there was little opposition to giving high priority to these top items. Apparently there were some strong feelings about adding or not adding a second bridge for access to Long Beach. There was low neutrality on this issue, as can be seen in the High, Neutral, and Low columns of the Tabulation of Results table on page 4.

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*The Town's population was listed by the U.S. Census in 1980 to be 1,855. The population was estimated to be 2,150 in 1984.

The number one item--Promote Clean-up and Litter Control--indicated that the people believed the Town's appearance could be improved by applying the seemingly simple antidote to the litter problem, namely: clean it up. This was easier said than done, of course, but it was the number one item. Assuming that the full-time residents were generally more careful than those who come to Long Beach only occasionally, it would take a campaign of intensity to remove litter backed by a Town litter law encompassing fines for littering to fines and/or assessments for property clean-up.

Drainage and Erosion are physical problems which are directly related to the Town's geographic location. Planning and management can do much to alleviate these problems as the Town continues to grow by applying mitigating procedures to the problem beyond the public works approach, namely: by discouraging development to occur where these problems are prone to be frequent through growth management and community redesign, e.g., zoning, storm sewers, piping, reorientation of the street system, etc. Although the Town is nearly platted in total, much can be done through restoration and maintenance procedures such as patio paving, intersection modification, and ditching with retention devices and flow restrictors.

Growth Management and Planning for the Future ranked very surprisingly high, indicating the awareness of the residents of the crucial continuing need for this function. It can be surmised that many of the participants are very concerned about growth and its attendant problems and maintaining a high quality of life in Long Beach. This anxiety on their part stems from what they have seen elsewhere. That is one reason they are in Long Beach, and they do not want it to happen here. The people obviously want the Town to be prepared for the future to protect their investments and to maintain their quality of life.

Better Traffic Controls and Flow can, in part, be tied into the second bridge issue, but it is assumed that the ranking of this item (traffic) comes from the congestion and inconvenience that the residents are faced with in the summer months. They are unable to move around freely because of the influx of people and because of traffic patterns, parking, and street layout. It was suggested that this should be studied and rectified with strong thought being given to a simple form of mass transit such as a continuously running tractor-trailer open-air tram or similar conveyance.

The Bottom Two Vote Getters had to do with sewerage and the Town Hall. A Town Sewer System ranked 17th. This issue has been a concern of the Planning Board and Town Board of Commissioners for some time. Reports have shown that since a public water system has been installed in the Town that the water table has risen substantially, placing in jeopardy the operating efficiency of individual septic tanks. Every action brings about a reaction, in this case a reaction that continues to increase as the community grows. Also, before improvements such as curb and gutter are installed in the main business area, both sanitary and storm sewer should be installed to save the inordinate expense of tearing up new street paving and construction. The citizenry are generally unaware of these situations apparently. This may be the reason for their placing a sewer system so low on the priority list for improvements.

New Governmental Facilities (i.e., Town Hall, etc.) ranked at the very bottom of the participants' priority listing. But it should be noted here that neutrality (number 3) on this issue received the highest individual amount of votes. It is apparent that the people are unaware of the extent of the

crowded, inefficient, and inconvenient working space in the Town administrative offices. They need to be made cognizant of this situation soon because the Town is growing, and if they are to continue the level of service they have come to enjoy, governmental office facilities are going to have to be expanded and made more efficient in the very near future. There is a very direct relationship between quality of service and the quality of operational facilities. It was suggested that the Town Board of Commissioners hold an open house at Town Hall to make its point.

The Other Eleven Vote Getters were popularly supported. It was noted that all but the last item (New Governmental Facilities) received substantial majority votes. Even the 11th ranked item--Consolidate Long, Caswell, and Yaupon Beaches--received an overwhelming vote of approval (87 high, 21 neutral, and 47 low). Some strong messages came from the participants in all but a few areas giving opportunity and inspiration for even stronger leadership on behalf of the Town's elected and appointed officials.

1986 Questionnaire Results

In January 1986, some 7,000 questionnaires were sent out to residents, seasonal residence owners, and vacant land owners of Long Beach. There were 1,631 returned by January 24th, representing an excellent 23 percent return overall.

The questionnaire A Survey -- Questions Concerning Long Beach, along with a tabulation analysis, are provided in the following pages.

Good Characteristics of Long Beach. Residents said that location, climate, friendliness of the residents, and peace and quiet, listed in that order, were the most important good characteristics of the community. Seasonal residents and vacant land owners were impressed most with Long Beach's being "a family beach", uncongested, peaceful and quiet.

Undesirable Conditions. Citizens thought that the bad aspects of Long Beach were trash/dirt/litter, unpaved streets, bars/honky-tonks, and traffic, while seasonal residents said the same, reversing the second and third above. Undeveloped property owners said the same except that an ugly main street came in third, and bars/honky-tonks moved to 13th on the list. Since this group of people apparently spends less time in Long Beach than the first two, they probably do not experience the ramifications that this type of commercial enterprise brings to the community.

Growth. All three groups thought that the Town was growing at about the right pace with permanent and seasonal residents recording high marks for the Town's growing too fast. Vacant property owners registered higher frequency in saying that growth was too slow.

Type of Growth. All three groups gave comparable answers with permanent single-family dwellings as the most desirable development for the Town. Noteworthy is the higher desire for condominiums among vacant land owners. With the higher frequency saying that growth was too slow among this group, one could surmise that speculation is one of the reasons for holding property in Long Beach.

A SURVEY -- QUESTIONS CONCERNING LONG BEACH

This questionnaire is being used to gather information for the Land Use Planning process now in progress as required by the North Carolina Coastal Area Management Act. We need your help. Please fill in the questionnaire and return it to Town Hall in Long Beach by January 24, 1986. Thank you.

1. I am a Permanent( ) or Seasonal( ) Resident of Long Beach. [Check one]
   [If you are a Seasonal Resident, please skip questions 2-4.]

2. I work in [town or county] _____.

3a. I am employed full-time( ) am retired( ).

3b. I work part-time( ) or full-time( ).

4. Number of people living in my home( ) = adults( ) and children( ).

5. What characteristics make Long Beach a good place to live or visit? _____
_____

6. What undesirable conditions are there in Long Beach? _____
_____

7. Is the Town: growing too slowly( ), growing at the right pace( ),
growing too fast ( ), or has it grown enough ( )?
[Please check one]

8. What type of growth should be encouraged or discouraged? [Check one each]

ENCOURAGE		DISCOURAGE
___	Permanent Residential	___
___	Seasonal Residential	___
___	Single Family Dwellings	___
___	Duplexes	___
___	Apartments	___
___	Condominiums	___
___	Mobile Homes	___
___	Commercial	___
___	Motels	___
___	Tourist Business	___

COMMENTS: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

9. Please rate Town services and facilities: 1 is best and 5 is worst.

Town Management	1	2	3	4	5	Recreational Facilities	1	2	3	4	5
Planning	1	2	3	4	5	Storm Drainage	1	2	3	4	5
Zoning Protection	1	2	3	4	5	Street Maintenance	1	2	3	4	5
Building Inspection	1	2	3	4	5	Street Paving	1	2	3	4	5
Fire Protection	1	2	3	4	5	Street Lighting	1	2	3	4	5
Police Protection	1	2	3	4	5	Traffic	1	2	3	4	5
Rescue Service	1	2	3	4	5	Downtown Parking	1	2	3	4	5
Garbage/Trash Service	1	2	3	4	5	Water Quantity	1	2	3	4	5
Public Beach Access	1	2	3	4	5	Water Quality	1	2	3	4	5
Beach Access Parking	1	2	3	4	5	Water Price	1	2	3	4	5

[Please turn the form over and complete the other side.]

10. Would you like to have trash and garbage pickup once( ) or twice( ) a week?
Comments: _____

11. What measures would you support to improve streets and drainage?

( ) Revise policy and improve as many streets as possible with stone only.
( ) Pave the streets according to current policies
( ) Pave all streets
( ) Improve storm drainage where streets are paved
( ) Improve storm drainage throughout the town

Comments: _____

12. As population increases, more public services and facilities could be needed. How should these be financed? Indicate your preference by marking a, b, c, or d by the service or facility.

a. Individual property assessment
b. User fees - those who benefit would pay
c. Taxation - all would pay through the general tax fund
d. Bond financing - money would be borrowed and paid back

( ) Sewer	( ) Street lighting	( ) Fire protection
( ) Streets	( ) Sanitation	( ) Administration

13. Do you believe that Long Beach is prepared for emergency evacuation? Yes( ) No( )
Comments: _____

14. Does the Town have adequate/recreational facilities for:

Indoor Activities ( ) Comments _____ Boating Facilities ( ) _____
Outdoor Activities ( ) Comments _____ Other _____

15. Would you support an additional bridge to Oak Island? Yes( ) No( )
Comments: _____

16. What basic cooperative efforts do you believe could be shared with the Towns of Yaupon Beach and Caswell Beach?

( ) Police	( ) Rescue	( ) Inspections	( ) Government
( ) Fire	( ) Traffic Control	( ) Evacuation	

Comments: _____

17. Would you be willing to pay higher taxes to support the suggestions you have made above? Yes( ) No( ) Comments: _____

THANK YOU FOR YOUR COOPERATION AND GOOD CITIZENSHIP!

Results will be posted at Town Hall in the near future. You are cordially invited to attend a Town Meeting at the Recreation Center on Wednesday, March 5, 1986, at 7:30 PM to discuss the results of this questionnaire.

PLEASE MARK YOUR CALENDAR NOW AND PLAN TO ATTEND!

Rating Town Facilities and Services. Permanent residents and seasonal residence owners felt very much the same about the Town's provision of facilities and serivces. There was little variation in their thinking. Fire, police, rescue, and sanitary services all received exceptional grades while storm drainage and street maintenance, paving, and lighting received rather poor marks. On street and drainage issues, vacant land holders were more neutral. Interestingly, all three groups were generally neutral on mangement, planning, and building inspection. Non-permanent residents gave poor grades to zoning.

Trash and Garbage Pickup. It appears that all groups were generally in accord in wanting to continue the existing policy of picking up trash and garbage once a week in the winter and twice in the summer.

Street and Drainage Improvements. Dealing with drainage problems is paramount in the minds of most of the respondents in all three groups, where 30 percent or more of the votes singled out this issue. Paving of all streets came in second in all groups.

Financing Services and Facilities. Permanent residents tend to wish to have services of facilities paid from the general tax fund. User fees seem to be more appropriate by seasonal residence and vacant land owners.

Emergency Evacuation. All three groups (permanent, seasonal, and vacant land owners) said that Long Beach is not ready for emergency evacuation with about 40 percent saying 'yes' and 60 percent saying 'no'. Citations of the one-bridge-only access to Oak Island and the need to drive past the CP&L nuclear power plant to evacuate where one of the disaster potentials exists were made in abundance.

Recreation Facilities Adequacy. General approval of facilities for recreation was given by all three groups.

Bridge Support. Overwhelming support for a second bridge, either at west end or at mid-town (Middleton Avenue) was given, ranging from 81-86 percent. Comments related to emergency evacuation and traffic. Some were concerned about the liveability of Long Beach being deteriorated from another access.

Intertown Cooperative Efforts and Consolidation. Large positive votes were given for cooperating with Yaupon Beach and Caswell Beach in most areas of governmental service by all three respondent groups. Rescue, traffic control, and evacuation received highest support. Consolidating government was supported with 55, 45, and 43 percent (permanent, seasonal, and vacant land owners, respectively) of the sum of respondents. Comments centered on the duplication of the efforts of the three municipalities with a composite population of under 4,000 people, citing three mayors, boards of commissioners, police chiefs, administrations, etc. leading to inefficiency, ineffectiveness, and high cost for services received.

Paying Higher Taxes. A resounding 'yes' was given by all three groups (permanent--58 percent, seasonal--61 percent, vacant land owners--69 percent). Many commentators reserved their 'yeses', provided that certain events would

LONG BEACH QUESTIONNAIRE ANALYSIS -- 1986

MARCH 4, 1986

Q#	SUBJECT	PINK	BLUE	WHITE
1	Residency	Permanent 318	Seasonal 797	Vacant Land 516
2	Work Place [Pink Only]	Long Beach 53 - 34% Southport 27 - 17% Yaupon Beach 2 - 1% Brunswick County 67 - 43% Caswell Beach 1 - 1% Other 6 - 4% S = 156		
3a	Work Status [Pink]	Full-time 150 - 84% Part-time 27 - 16% S = 177		
3b	Retired [Pink]	Total 158 Work part-time 27 - 17% Work full-time 105 - 66%		
4	People in Home	Total 682 Adults 586 - 86% Children 96 - 14%		
5	Good Characteristics	575 Entries	902 Entries	583 Entries
		At the Beach 78 Climate/Weather 70 Nice Friendly People 70 Peaceful/Quiet 70 A Family Beach 56 Ocean/Waterway 50 Small Town 32 Lifestyle/Slow Pace 29 Fishing 22 Not too Crowded 19 Trees/Woods 16 Scenery/Beauty 14 Clean Air 14 Low Taxes 13 A Safe Place 13	Family Beach 98 Uncongested 82 Peaceful/Quiet 77 Clean Beaches 72 Ocean/Waterway 62 Fishing 62 Trees/Woods 48 Climate/Weather 29 Low Taxes 19 Few Condminiums 16 Not too Commercial 15 A Safe Place 14 Friendly People 12 Life Style/Slow Pace 12 Location 11	Family Beach 71 Uncongested 65 Peaceful/Quiet 61 Ocean/Waterway 56 Fishing 42 Clean Beaches 32 Climate/Weather 26 Trees/Woods 15 Not too commercial 11 Few Condominiums 8 Scenery/Beauty 6 Seafood Restaurants 4 Single Family Res. 4 Boating 3 Friendly People 3
6	Undesirable Conditions	630 Entries	1012 Entries	388 Entries
		Trash/Dirt/Litter 60 Unpaved Streets 41 Bars/Honky Tonks 40 Traffic 39 Unkempt Lots 32 Unkempt Businesses 30 Politics 28 Street Conditions 26 Street Maintenance 23 Bridge/Island Access 22 Street Flooding 21 No Passing/Oak Dr. 20 Condominiums 18 Loose Cats & Dogs 14 Dirty Beach 14 Limited Store Items 13 Unkempt Houses 13 Street Lighting 13	Trash/Dirt/Litter 111 Bars/Honky Tonks 105 Unpaved Streets 101 Street Maintenance 88 Traffic 75 Unkempt Businesses 54 Bridge/Island Access 45 Street Flooding 43 Strip Clearing Lots 40 High Taxes 35 Condominiums 30 Ugly Main Street 29 Vandals 18 Town Management 12 Too Many Yankees 9 Parking 9 Unkempt Lots 7 Mosquitoes 7	Trash/Dirt/Litter 44 Unpaved Streets 42 Ugly Main Street 36 Unkempt Lots 33 Unkempt Busnesses 32 Bridge/Island Access 22 High Taxes 20 Street Maintenance 16 Strip Clearing Lots 14 Street Flooding 10 Condominiums 10 Town Management 9 Politics 9 Evacuation 8 Traffic 8 Bars/Honky Tonks 7 Shopping 7 Dirty Beach 7
7	Growth	Slow 15 5% Right 152 50% Fast 99 33% Enough 37 12% S = 303	Slow 17 2% Right 308 42% Fast 294 40% Enough 114 16% S = 733	Slow 60 13% Right 250 53% Fast 97 20% Enough 68 14% S = 475
8	Type of Growth	Encourage / Discourage	Encourage / Discourage	Encourage / Discourage
	-Perm. Residences	278 - 97% / 8 - 3%	626 - 98% / 12 - 2%	345 - 99% / 3 - 1%
	-Seas. Residences	197 - 85% / 35 - 15%	580 - 96% / 23 - 4%	278 - 90% / 30 - 10%
	-Sing. Fam. Dwlg.	285 - 98% / 5 - 2%	687 - 99% / 4 - 1%	353 - 97% / 10 - 3%
	-Duplexes	108 - 48% / 119 - 52%	228 - 43% / 300 - 57%	142 - 52% / 131 - 48%
	-Apartments	79 - 34% / 155 - 66%	109 - 24% / 453 - 76%	88 - 30% / 206 - 70%
	-Condominiums	45 - 18% / 212 - 82%	69 - 10% / 629 - 90%	86 - 25% / 254 - 75%
	-Mobile Homes	39 - 16% / 204 - 84%	96 - 16% / 523 - 84%	50 - 15% / 286 - 85%
	-Commercial	135 - 58% / 98 - 42%	252 - 47% / 281 - 53%	103 - 37% / 177 - 63%
	-Motels	122 - 54% / 103 - 46%	219 - 42% / 299 - 58%	148 - 51% / 141 - 49%
	-Tourist Business	161 - 73% / 61 - 27%	388 - 70% / 169 - 30%	189 - 63% / 111 - 37%
		S = 290	S = 698	S = 363

Q#	SUBJECT	PINK					BLUE					WHITE				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
9	Town Services and Facilities															
	-Management	34	52	123	61	33	76	118	229	92	50	63	68	162	37	30
	-Planning	17	26	113	90	58	37	70	210	151	75	33	43	132	71	46
	-Zoning	27	48	108	58	63	55	96	200	92	100	53	42	95	89	50
	-Building Insp.	40	63	116	47	31	112	113	209	49	28	61	55	108	52	25
	-Fire Protection	104	114	65	19	12	232	225	104	20	6	93	107	94	29	5
	-Police Protect.	123	98	58	17	13	315	170	116	24	12	113	133	81	13	12
	-Rescue Service	155	92	42	14	12	331	146	85	29	2	135	80	88	11	4
	-Garbage/Trash	137	108	43	9	17	233	180	128	55	55	126	105	86	33	12
	-Beach Access	111	86	69	25	31	199	169	148	81	60	100	87	84	58	43
	-Beach Parking	45	64	81	63	65	80	132	143	148	149	55	59	99	101	73
	-Recreation Fac.	79	96	86	29	22	92	172	200	67	45	50	101	103	52	25
	-Storm Drainage	11	16	51	84	153	16	43	108	169	247	23	51	93	58	17
	-Street Maint	15	28	87	70	120	26	105	222	103	166	18	69	133	81	61
	-Street Paving	12	20	60	75	141	29	64	198	130	163	15	46	110	91	79
	-Street Lighting	29	52	88	54	95	71	75	98	114	161	40	62	112	90	41
	-Traffic	20	45	102	55	86	32	92	238	119	141	35	70	111	78	46
	-Downtown Pkg.	38	55	91	45	53	82	116	211	66	75	48	80	131	69	20
	-Water Quantity	153	96	42	9	14	297	202	93	37	20	135	115	57	31	19
	-Water Quality	65	80	81	41	46	227	189	127	76	45	110	102	55	40	40
	-Water Price	38	53	107	41	68	128	140	194	88	98	58	79	121	42	27
10	Trash and Garbage Pickup	S = 245			1-Winter		S = 705			1-Winter		S = 434			1-Winter	
		Once	Twice		2-Summer		Once	Twice		2-Summer		Once	Twice		2-Summer	
		149	95		87		316	308		81		180	173		40	
		45%	29%		26%		45%	44%		11%		46%	44%		10%	
	Comments:	Polycarts are big enough for one pickup. Keep policy the same. Holidays are the worst. Pick up bagged trash on the streets. Require compaction. Don't subsidize summer residents. Phone in requests for special pickups. Those who want it twice should pay for it.					Service is good. Carts are ugly. Need for debris pickup. Keep policy the same. We shouldn't pay for pickup year-round. Remove trash once a month. No charge for vacant cottage. Empty cans at beach access more often.					Keep policy the same. Trash pickup once a week. Should be free because our taxes are too high. System works fine. What happened to the one man crew proposal after we were forced to buy carts?				
11	Street and Drainage improvement measures	Number	Percent				Number	Percent				Number	Percent			
	-Revise/improve with stone	46	8%				36	3%				20	3%			
	-Current Policies	87	15%				241	23%				153	22%			
	-Pave All Streets	155	27%				210	20%				181	26%			
	-Improve Drainage paved streets	76	13%				246	24%				102	15%			
	-Improve Drainage throughout	209	37%				311	30%				238	34%			
	Comments:	Use Powell Bill money. Pave three per year. Use tax money. Put sewers in first. Assess property owner. Pave Yacht Drive. Develop a 4-year plan. Bike pathes and sidewalks are needed.					Pay as you go. Promises not kept. Pave Yacht Drive. Standing water and mosquitoes. You can't maintain the paved streets you have. What happened to the 8-house rule? Assess owners when they request service or complain.					Water soaks in quicker on unpaver streets. Pay as we go. Devise plan and pave as money is available. Research oyster and clam shell application/good drainage. Provide annual resurfacing program (and drainage). Get rid of excess salaries and use money to pave streets.				

Q#	SUBJECT	PINK	BLUE	WHITE
12	Financing Services and Facilities	a b c d	a b c d	a b c d
	-Sewer	24 62 46 103	68 250 115 223	33 155 55 138
	-Streets	48 51 96 56	56 213 202 160	60 88 143 87
	-Street Lighting	15 45 157 24	45 192 313 80	40 102 185 45
	-Sanitation	7 70 137 18	52 275 176 71	18 209 106 48
	-Fire Protection	17 14 192 14	29 125 350 52	36 74 275 39
	-Administration	9 9 193 17	37 124 333 49	25 76 214 30
13	Emergency Evacuation	Yes: 124-41% | No: 177-59% S = 301	Yes: 257-39% | No: 397-61% S = 654	Yes: 157-42% | No: 215-58% S = 372
	Comments:	1985 evacuation was orderly. CP&L is the big issue. We can't hear sirens. Each hurricane shows we're not prepared. We need boats for a nuclear accident. One bridge inadequate. Too congested during last evacuation. No way on a 12-mile island. Must drive past most likely source of emergency.	What about TMI? Attempt to blow up bridge. New bridge needed. Traffic jam going toward CP&L. We've had it. I am insecure. Urgent need for 2nd bridge. Too many people for one bridge. Alternative route needed.	We would have to drive directly toward CP&L. No provision for a mass evacuation for a nuclear disaster. Only one way off island Exit much too close to nuke plant. Impossible with one exit. Storm-adequate but nuke accident-no. Police are over protective after hurricane. One bridge is impossible.
14	Recreation Facilities Adequacy	X | Yes | No	X | Yes | No	X | Yes | No
	-Indoor	42-18% | 132-55% | 64-27%	179-54% | 76-23% | 76-23%	73-34% | 47-22% | 93-44%
	-Outdoor	41-17% | 142-58% | 60-24%	180-53% | 111-33% | 49-14%	75-35% | 72-33% | 70-32%
	-Boating	34-11% | 101-50% | 68-33%	180-52% | 96-26% | 72-22%	73-38% | 50-27% | 65-35%
15	Bridge Support	S = 305 Yes: 263-86% | No: 42-14%	S = 717 Yes: 586-82% | No: 131-18%	S = 413 Yes: 333-81% | No: 80-19%
	Comments:	Yes, without added tax. For safety's sake. At Middleton. At westend. No, not at present. Depends on growth. For evacuation and to cut the hassel. I would feel safer. Cut travel time and congestion. Would add traffic and congestion. Give high priority. Result-more traffic.	If state and federally financed, yes. At Middleton. At westend. What if boat hits it? Town should focus on this. CP&L should pay for it. More access means more growth, no. Yes, for growth and evacuation.	Yes, for life and death matters. A westend bridge. Most urgent need of all. Another bridge will further damage the barrier island. With a one-time $100 assessment. Build a toll bridge. Westend bridge to avoid CP&L in a nuke disaster.
16	Cooperative Efforts			
	-Police	205 - 64%	489 - 61%	329 - 64%
	-Fire	219 - 69%	524 - 66%	338 - 66%
	-Rescue	223 - 70%	557 - 70%	356 - 69%
	-Traffic	228 - 72%	494 - 62%	339 - 66%
	-Inspection	170 - 53%	359 - 45%	265 - 51%
	-Evacuation	241 - 76%	546 - 68%	391 - 76%
	-Government	176 - 55%	360 - 45%	223 - 43%

Q#	SUBJECT	PINK	BLUE	WHITE
16 Cont	Comments:	One government = effectness and efficiency. Three municipalities on little Oak Island are redundant. It fosters uncooperative attitudes - we're in this together. The best thing that could happen to Oak Is. Consolidation: our only hope for Oak Island. Yaupon and Caswell must pay their own way. The don't want or need our problems. Pride in identity costs us many dollars.	We should work together. Merge the three. Too few people to support three governments. Why three police chiefs? Keep each town on its own. We have three fiefdoms, if others can merge, we can. Yaupon and Caswell will not hear of such. Save money with one government. Larger population means more borrowing power. We have so much in common.	Incorporate entire Oak Island. Its financially ridiculous, currently. One major council for all. Consolidation = better service for better cost. One town is a sensible solution. We duplicate functions. One island - one govt. None, let them do their own thing. One town is all that is needed for the island. Individual control is best.
17	Pay Higher Taxes Comments:	S = 284 Yes 163-58% | No 121-42% Where does the money go? Proper management and control needed on spending. Too high for what we get. Raise taxes just a little each year. Anything worth having has its price. If its important enough we'll pay for it. Reasonable increases over time.	S = 691 Yes 424-61% | No 267-39% If necessary, yes. Consolidation should help. Taxes are high enough for seasonal residents Too high for services received. No, we pay minimum water and sanitation fee all year. Stop lining your pockets and use money wisely. Yes, within reason. Growth should take care of taxes.	S = 425 Yes 295-69% | No 130-31% We have enough money now. Our taxes are extremely low. We get what we pay for. Taxes are high enough. I don't get benefits as a lot owner. I'll support an 8% sales tax. Not too much higher. As long as we get our money's worth. Yes, if all pay their share. Yes, with careful planning.
General Comments:	Please print the results of the questionnaire in The Pilot. Thank you for giving us the opportunity to speak out. The Town Board should try to cooperate with the Town Manager. She has more expertise than they. Why do you always have meetings on weekdays? We could attend weekend meetings which would be good for us. Please keep your Town Hall open to nine on Friday night. If you open your offices on Saturday mornings, we could conduct our business then. Thanks for this opportunity. Please get rid of overhead electric poles. They are so unsightly. Thank you for allowing to express our views. I prefer to pay quarterly fees and taxes. It would save us both. We are impressed with the new management. Don't put gravel on the streets please. You need a central business district. Town Hall is a very poor symbol for our community. The Town needs some spirit and a theme to grasp hold of. We appreciate your asking us about what is needed in Long Beach. Thanks.		

take place relating to economy in government including: care in administration, consolidation of the three municipalities, if necessary, within reason, etc.

General Comments. Overall the Town leadership received good grades for legislative and administrative performance. Most of the comments were constructive, proving to be valuable input for the Town Commissioners and Planning Board.

Planning Meetings Held

During the 1986 Land Use Plan Update process, ten meetings to which the public was encouraged to attend were held.

Planning Board Meetings	Joint Town Commissioner Planning Board Meetings
October 3, 1985	March 5, 1986
November 7	March 15 (Community Workshop)
December 4	
February 5, 1986	
April 2	Town Board Adopts Preliminary Plan
May 7	
May 21	
June 4	June 17, 1986

Continuing Public Participation

Since the Land Use Plan is a tool to be used by the local governments for planning purposes and since no plan is perfect, there needs to be continual review of the findings in the Community Profile and from the suggestions, ideas, and criticism of the citizenry which all lead to the policies expressed in the following section. As conditions change, and the needs and concerns of Long Beach change, this plan will need to be updated.

The Long Beach Planning Board meets the first Wednesday of every month. These meetings are open to the public and all comments and statements are welcome. Citizens and other interested people are encouraged to attend Planning Board sessions as well as Town Commissioners meetings.

Resulting from the outcome of the 1986 questionnaire, which was presented at an advertised Town Meeting on Wednesday, March 5, draft policy statements (derived from what the people said, existing state and town policy, and findings of the Community Profile studies) were presented to a joint workshop of the Mayor and Town Commissioners and the Planning Board on Saturday, March 15.

The policy statements which follow form the basis and very framework of the 1986 Land Use Plan Update. The statements represent the thinking of the people and their representatives.

POLICY STATEMENT

The Town of Long Beach Board of Commissioners adopt the following policies to be applicable for the next ten years unless otherwise repealed. The policies are classified into four areas: resource protection, resource production and management, and economic and community development. Storm mitigation policies will be incorporated after review and revision of the 1984 Plan.

RESOURCE PROTECTION

It is the policy of Long Beach to support and enforce, through its CAMA permitting responsibility, state policies as they relate to Areas of Environmental Concern (AECs). State policy statements for AECs offer protection for Long Beach's fragile and significant environmental resources through the application of CAMA permitting procedures. In accordance with the State CAMA regulations, Long Beach adopts the following policies concerning AECs within its jurisdiction. Further, reference should be made to related discussions on soils and fragile areas in the land suitability section on pages 23-27.

The Town of Long Beach is located with the municipalities of Yaupon Beach and Caswell Beach on a fragile barrier island. The implications of Long Beach's physical actions are manifest far beyond its own corporate limits. It is realized that the community must do its part to protect Oak Island and its resources and the Coastal Resources of North Carolina.

Water Quality

Protection of the estuarine and beach systems is the policy of Long Beach. Surface runoff (non-point and point source) and erosion are important issues to the Town just as are septic tank suitability and proper operation. Please refer to the secion on Water Consumption on pages 6 and 7.

Water quality is an issue of concern for all of Oak Island and the water bodies it abuts. Strict application of septic tank installation and use laws are paramount not only to protect the drinking water source but to protect the estuarine system.

Since there is very little paved surface in the community, parking, streets and general building coverage do not present a major problem as non-point pollution sources do at present. Long Beach continues to grow, however, and prospects of having increased impermeable surface parking in the Oak Island Drive business area and the beach section are increasing. Goal statements in this Land Use Plan regarding traffic separation and parking can be found on page 56. The implementation of these will increase the numbers of covered surfaces, just as the widening of Oak Island Drive with curb, gutter, and storm sewer will generate non-point source runoff increases.

The prime concern with runoff in any community is the washing of urban surface waste into water bodies. In the case of Long Beach, the low-lying wet areas, particularly along Davis Creek/Canal and the marshlands to the northeast, receive much of that surface drainage of both point and non-point sources that cannot be absorbed into the soil. As development and improvements increase in the Town, this issue will become more critical.

Coastal Management Policy

It is the policy of Long Beach to uphold the guidelines and regulations of the Coastal Area Management Act not only to the letter of the law, but in spirit by consistently dispensing its CAMA permitting responsibilities in a conscientious manner.

The Estuarine System

In recognition of the enormous economic, social, and biological values the estuarine system has for Oak Island and North Carolina, Long Beach will promote conservation and management of the estuarine system as a whole, which includes individual AECs: coastal wetlands, estuarine waters, public trust areas, and estuarine shorelines.

The management objective for the system shall be to give highest priority to the protection and coordinated management of all the elements as an interrelated group of AECs, so as to safeguard and perpetuate their biological, social, economic, and aesthetic values, and to ensure that any development which does occur in these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources.

In general, permitted land uses in the coastal wetlands, estuarine waters, and public trust areas shall be those which are water dependent. Examples may include: docks, piers, boat ramps, drainage ditches, and culverts.

Land uses that are not water dependent shall not generally be permitted in coastal wetlands, estuarine waters, and public trust areas. Examples that are not water dependent may include: restaurants, residences, apartments, motels, and parking lots.

Specific policies regarding individual AECs of the estuarine system are stated below. In every instance, the particular location, use, and design characteristics shall be in accord with the general use standards for coastal wetlands, estuarine waters, and public trust areas as stated in subchapter 7H of State CAMA regulations.

Coastal Wetlands. Activities in coastal wetland areas shall be restricted to those which do not significantly affect the unique and delicate balance of this resource. Suitable land uses include those giving highest priority to the protection and management of coastal wetlands, so as to safeguard and perpetuate their biological, social, economic, and aesthetic values and to establish a coordinated management system capable of conserving and utilizing coastal wetlands as a natural resource essential to the functioning of the entire estuarine system. These land uses shall achieve little to no non-point source runoff through the minimization of impervious surfaces and the maximization of natural vegetation preservation. Highest priority of use shall be allocated to the conservation of existing coastal wetlands. Second priority shall be given to those uses that require water access and cannot function elsewhere.

Acceptable land uses may include utility easements, fishing piers, and docks. Unacceptable uses may include, but would not be limited to, restaurants, businesses, residences, motels, parking lots, and highways.

Estuarine Waters. In recognition of the importance of this resource for the fisheries and related industries as well as aesthetics, recreation, and education, Long Beach shall promote the conservation and quality of estuarine waters. Activities in these areas shall be restricted to those which do not permanently or significantly affect the function, cleanliness, salinity, and circulation of estuarine waters. Suitable land/water uses include those giving highest priority to conservation and management so as to safeguard and perpetuate biological, social, economic, and aesthetic values and to establish a coordinated management system capable of conserving and utilizing estuarine waters to maximize their benefits to humans and the estuarine system. Highest priority of use shall be allocated to the conservation of estuarine waters and its vital components. Second priority shall be given to uses that require water access and cannot function elsewhere.

Appropriate uses may include simple access channels, structures which prevent erosion, navigation channels, boat docks, and piers.

Long Beach will also support projects in estuarine water areas which aim to increase the productivity of these waters. Such projects include oyster reseeding programs and inlet channeling and dredging operations for the purpose of increasing the flushing action of tidal movement.

Public Trust Areas. In recognition of certain land and water areas in which the public has certain established rights and which support valuable commercial and sports fisheries, have aesthetic value, and are resources for economic development, Long Beach shall protect these rights and promote the conservation and management of public trust areas. Suitable land/water uses include those which protect public rights for navigation and recreation and those which preserve and manage the public trust areas in order to safeguard and perpetuate their biological, economic, social and aesthetic value.

In the absence of overriding public benefit, any use which significantly interferes, as with the public right of navigation or other public trust rights which apply in the area, shall not be allowed. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters shall not be allowed.

Uses that may be allowed in public trust areas shall not be detrimental to the public trust rights and the biological and physical functions of the estuary. Examples of such uses include the development of navigational channels or drainage ditches, the use of bulkheads to prevent erosion, and the building or piers, docks, or marinas.

Estuarine Shoreline. CAMA defines the estuarine shoreline at Long Beach as the areas 75 feet landward of the estuarine waters. Long Beach recognizes: (1) the close association between estuarine shorelines and adjacent estuarine waters, (2) the influence shoreline development has on the quality of estuarine life, and (3) the damaging processes of shorefront erosion and flooding to which the estuarine shoreline is subject.

Shoreline development has a profound effect on adjacent estuarine waters. Effluent from poorly placed or malfunctioning septic systems can pollute shellfish areas which represent much greater economic benefits to the Town's citizens than do the residential uses of estuarine shoreline areas. In recognition of this fact, Long Beach will use all available means of law to restrict the use of estuarine shoreline areas for residential purposes where there is a substantial chance of pollution occurring.

The natural process of erosion transforms shoreline areas into public trust areas. It shall be the policy of Long Beach to allow this natural process to occur if life or structures are not in jeopardy.

Suitable land uses are those compatible with both the dynamic nature of estuarine shorelines and the values of the estuarine system. Residential, commercial, and recreational land uses are all appropriate types of use along the estuarine shoreline provided that:

- A substantial chance of pollution occurring from the development does not exist, where there is a low percentage of runoff, a high percent of deep and shallow infiltration, and a high degree of evapo-transpiration,

- Natural barriers to erosion are preserved and not substantially weakened or eliminated,

- The disturbance of natural vegetation is minimized,

- The construction of impervious surfaces and areas not allowing natural drainage is limited to only that necessary to adequately service the development,

- Standards of the North Carolina Sedimentation Pollution Control Act 1973 are met,

- Development does not create pollution or have any other significant adverse impact on estuarine resources, and

- Development does not significantly interfere with existing public rights of access to, or use of, navigable waters or public resources.

Ocean Hazard Areas

In recognition of the critical nature of ocean hazard areas due to vulnerability to erosion and to the dynamic processes that can be dangerous to life and property, Long Beach supports the State CAMA policies for Ocean Hazard Areas. Ocean hazard forces are the most dynamic in ocean erodible and high hazard flood areas. The 8.3-mile oceanfront is significantly important to economic, aesthetic, and recreational resources of Long Beach. The Town vigorously supports all efforts to protect these areas.

Suitable land uses in ocean hazard areas generally are those which are not vulnerable to unreasonable danger to life and property and which achieve a balance between the financial, safety, and social factors involved in hazard area development. Ocean shoreline erosion control activities, dune establishment/stabilization, and structural accessways are all acceptable types of land uses. Residential, commercial, and recreational land uses are also acceptable types of use in ocean hazard areas provided that:

- Development is landward of the crest of the primary dune; where no primary dune exists, development is set back a minimum of 30 times the average annual erosion rate (60 feet in the area from 58th Street East to Lockwood's Folly Inlet and 90 feet from 58th Street East to 79th Street East) from the first line of stable vegetation. Please note the Setback Requirements table on page 16.
- Development does not involve the significant removal or relocation of primary or frontal dune sand or vegetation.

- Development implements means and methods to mitigate or minimize adverse impacts of the project.

- Development of growth-inducing public facilities such as sewers, waterlines, roads, and erosion control measures is permitted only in cases where:

  - national or state interests and public benefits are clearly overriding factors,

  - facilities would not exacerbate existing hazards or damage natural buffers,

  - facilities would be reasonably safe from flood and erosion related damage, and

  - facilities do not promote growth and development in ocean hazard areas.

- Prior to the issuance of any permit for development in the ocean hazard AECs,there shall be a written acknowledgement from the applicant stating awareness of the risks associated with development in this hazardous area.

- The Town of Long Beach believes that the 8.3 miles of ocean shoreline is a valuable natural recreational resource that should be kept clean and safe for public use. Therefore, it is the policy of Long Beach to provide appropriate beach access and parking facilities, trash receptacles, stump removal when deemed to be hazardous to public safety, and any other beach service which would be feasible and appropriate, excepting erosion control activities.

- The natural process of erosion transforms shoreline areas into public trust areas. It shall be the policy of Long Beach to allow this natural process to occur.

- All other regulations adopted by the Coastal Resources Commissioner will be applicable and shall be complied with.

Natural and Cultural Resource Areas

Uncontrolled or incompatible development may result in major or irreversible damage to fragile coastal resource areas which contain environmental, natural, or cultural resources of more than local significance. In recognition of this, Long Beach will continue to protect such natural systems or cultural resources; scientific, educational, or associative values; and aesthetic qualities. One such resource is the Big Davis Creek and Canal complex. Another is the fresh water ponds lying behind the dunes between 59th and 69th Streets East and the Intracoastal Waterway.

Individual AECs included in this general category are: coastal complex natural areas, coastal areas that sustain remnant species, and unique coastal geologic formations.

In general, these resources are noted to be valuable educational, scientific, and aesthetic resources that cannot be duplicated. They may be important components in a natural system. Their importance serves to distinguish the designated areas as significant in relation to the coastal landscape and archaeological remains. Several of these may be nomination category AECs and should be considered by the Town for AEC designation with the help of the Coastal Resources Commission.

Long Beach will support the following actions regarding these irreplaceable resources:

- Protection of unique habitat conditions that are necessary to the continued survival of threatened and endangered native plants and animals and to minimize land use impacts that might jeopardize these conditions.

- Protection of the features of a designated coastal complex natural area in order to safeguard its biological relationships, educational and scientific values, and aesthetic qualities. Specific objectives for each of these functions shall be related to the following policy statements either singly or in combination:

  - To protect the natural conditions or sites that function as key or unique components of coastal systems. The interactions of various life forms are the foremost concern and include sites that are necessary for the completion of life cycles, areas that function as links to other wildlife areas (wildlife corridors), and localities where the links between biological and physical environments are most fragile.

  - To protect the identified scientific and educational values and to ensure that the site will be accessible for related study purposes as has been provided to Big Davis Canal and its related marsh area from 19th Street East via the board deck and gazebo.

  - To protect the values of the designated coastal complex natural area as expressed by Long Beach and its citizenry. These values should be related to the educational and aesthetic qualities of the feature.

- Conservation of coastal archaeological resources as they may be identified of more than local significance to history or prehistory that constitute important scientific sites, or are valuable, educational, associative, or aesthetic resources. There are 76 such sites in Long Beach recognized by the N.C. Department of Cultural Resources. Wherever there is question of protection of these, the Town will seek assistance and determination from the Division of Archives and History before proceeding to issue permits. Specific objectives for each of these functions shall be related to the following policy statements either singly or in combination:

- to conserve significant archaeological resources including their spatial and structural context and characteristics through site preservation or scientific study,

- to ensure that the designated archaeological resource, or the information contained therein, be preserved for and be accessible to the scientific and educational communities for related study purposes, and

- to protect the values of the designated archaeological resource as might be expressed by Long Beach and its citizens; these values should be related to the educational, associative or aesthetic qualities of the resource.

Development may be permitted in designated fragile coastal natural or cultural resource areas provided that:

- The proposed design and location will cause no major or irreversible damage to the stated values of a particular resource. One or more of the following values must be considered depending upon the stated significance of the resource:

  - Development shall preserve the values of the individual resource as its functions as a crtical component of a natural system.

  - Development shall not adversely affect the values of the resource as a unique scientific, associative, or educational resource.

  - Development shall be consistent with the aesthetic values of a resource as identified by Long Beach and its citizens.

- No reasonable alternative sites are available outside the designated AEC.

- Reasonable mitigation measures have been considered and incorporated into the project plan. These measures shall include consultation with recognized authorities and with the Coastal Resources Commission.

- The project will be of equal or greater public benefit than those benefits lost or damaged through development.

PHYSICAL CONSTRAINTS TO DEVELOPMENT

Long Beach adopts the following policies regarding physical constraints to development.

Public Water Supply

Indicative of growth in Long Beach is the increasing use of potable water. As can be seen on the Water Use Chart on page 6, the Town consumes large amounts. Straight line projections, using a 9 million gallons per year increase, show a water consumption in 1996 will be 257 million gallons. Estimates by the County indicate that it will be able to supply this amount to Long Beach. Extensive improvements to the County system with increases in capacity. All development in Long Beach is currently completely serviced with water provided by Brunswick County. The cost of securing this water supply is borne by the users in the form of charges based on connection, reconnection and disconnection services, basic fee, and metered consumption. It is the policy of the Town to rely on Brunswick County for all of its public water supply.

Solid Waste Disposal

Long Beach recognizes its role as the provider of solid waste disposal services for its residents. It is the policy of Long Beach to have this service provided in an efficient, safe, and sanitary manner. In order to carry out this role, adequate means of final disposition must always be available. Long Beach currently uses the County's landfill between Supply and Bolivia on U.S. 17. Long Beach supports the County's participation in regional landfill projects so long as adequate landfill sites are retained, maintained, and guaranteed.

Septic Tank Suitability

In conformance with State and County Health regulations, growth and development will not be allowed in areas where septic tanks will not function and sewer services are not available. See the discussion of this issue on page 8.

Drainage

There are conditions in certain areas of Long Beach, where need exists to assure that development, if permitted, will not contribute to danger to life or other property. In those areas identified by the Federal Emergency Management Agency as Flood Prone Areas under the Federal Flood Insurance Program, new development shall conform to standards of that program, such as no liveable areas being located lower than the identified 100 year flood elevation. Please note the Composite Hazards Map on pages 30aand 30b, and refer to the Flood Hazard Study for Long Beach published by the Federal Emergency Management Agency (December 18, 1985).

Some areas of the Town are either by nature or by earlier development of low-lying character, without adequate natural drainage pattern. Some of these areas are flooded frequently by rains that can be expected often over the seasons. Long Beach will discourage new development of such areas unless there is adequate assurance by the developer for correcting any such problems of flooding or water storage, and in such manner that there is no adverse condition created on adjoining land areas.

RESOURCE PRODUCTION AND MANAGEMENT

Long Beach's natural resources play a vital role in its economy. Beaches are utilized for recreational uses as well as for fishing. Protection of these resources is a prime concern. To deal with issues that involve resource production and management, Long Beach adopts the following policies:

Net Fishing

The use of nets for fishing within 300 yards of the beach between 79th Street East (Town Limits) and Lockwood's Folly Inlet is prohibited between May 15 and September 15.

Coastal and Estuarine Waters

Long Beach feels that protection of Coastal and Estuarine Waters is a prime prerequisite. Habitats for shellfish in all stages of their life cycle must be preserved in order to maintain fishing as a viable economic and recreational activity. Therefore, any development which will profoundly and adversely affect coastal and estuarine waters will be restricted. In the design,

construction, and operation of coastal and estuarine development, every effort must be made to mitigate negative efforts on water quality and fish habitat. These efforts will be the owners' or operators' own expense.

It should be noted that coastal and estuarine waters protection has great significance for economic and community development. Besides being productive for food supply, recreation and environmental reasons, coastal and estuarine waters are commercially valuable for the County's fishing industry and for attracting vacationers.

Off Road Vehicles

In May 1978 Long Beach passed an ordinance prohibiting the use of all vehicles on the beach strand and dune areas. The only exceptions to the ordinance are for the use of emergency vehicles and Town-authorized vehicles.

Recreational Resources

The beach and ocean are the prime public physical attractions for recreation in Long Beach. In recognition of this valuable resource, the Town has designated and maintains 42 public access points from Beach Drive. Equipped with dune bridges, fencing, parking, and trash receptacles, these are located at the ends of existing streets. Long Beach also maintains a regional access area at 48th Street East. It is the policy of the Town to continue to promote public beach access with parking made available and lifeguards made available at designated locations. It is the policy of the Town to hire a full-time recreation staff with added summertime help to provide a recreation building for a variety of recreational and other community uses, to operate a Town park for children's passive activities primarily at West end, to provide canoe trail and boating access to Davis Creek/Canal at the Recreation Building, and to render access to the marshlands of Davis Creek for human/environmental interface via boardwalks and a gazebo. It is the policy of the Town to promote the usage of these facilities through activities reports and events announcements and through conspicuous signage. Recreation facilities are described on pages 5 and 6. Supporting objectives are shown on page 70 .

Commercial and Recreational Fisheries

There are no commercial fisheries in Long Beach, but recreational fisheries exist in the ocean, Davis Canal and Creek, and the Intracoastal Waterway. Clams, oysters, and fish may be taken from numerous areas of Davis Creek and Canal that are pollution-free. Town boat access ramps are provided at Sportsmen's Marina and Dutchman Creek. The Town promotes recreational fishing and access for fishermen. A sport fishing pier is located between 27th and 30th Place West on Beach Drive. Long Beach views this year-round operation as a commercial and recreational asset to the community and provides for its operation through zoning and business licensing.

It is the policy of Long Beach to protect AECs through administration and to provide special access to them at the Tidal-Way Trails Park entrance to Davis Creek at the Recreation Center and at the Nature Walk trail and gazebo which crosses Davis Creek at 19th Place East. It behooves Long Beach to care for its estuarine waters because of the importance of commercial fisheries for Brunswick County.

Residential Land Development

Long Beach provides for residential development in areas already platted for this use. Both permanent and seasonal residential development are of prime importance to the town. A number of policies, goals, objectives and strategies have been adopted for residential development. These can be seen on the following pages.

Commercial Land Use

Long Beach supports commercial development in those areas designated by the Zoning Ordinance. Successful commercial enterprise is of prime importance for the economy of Long Beach. Servicing permanent and seasonal residents and vacationers figures into the overall attractiveness of the community as a resort. Long Beach has adopted several policies, goals and objectives in support of commercial land use. These are given on the following pages.

Productive Agricultural Lands

There are no productive agricultural lands in Long Beach.

Commercial Forest Lands

There are no commercial forest lands in Long Beach.

Mineral Production Areas

There are no existing and no known potential mineral production areas in Long Beach.

Industrial Impacts of Resources

There is no industry or mining in Long Beach, and there is no provision for industrial development in the Zoning Ordinance.

Impervious Surface Runoff

Drainage can be increased substantially by impervious surfaces (driveways, parking lots, roofs). Flooding problems can be lessened or kept from getting worse, by minimizing impervious areas and maximizing vegetation, especially trees. Vegetation increases infiltration by pulling water out of the ground, using it and transpiring it back to the atmosphere, as well as filtering runoff. Further, numerous trees make a more beautiful community. Long Beach's policy is to use all financilly feasible and environmentally acceptable means at its disposal to help cut the damage of flooding.

ECONOMIC AND COMMUNITY DEVELOPMENT

Protection and management of natural resources is of primary importance, but economic and community development is also important. The following are policy statements regarding current and future issues pertaining to economic and community development.

Growth and Development

It is the policy of Long Beach to manage and direct its growth to balance development and the provision of municipal services by:

- Basing population and growth guidance on the following criteria: (a) suitability of the land to accommodate use; (b) capacity and protection of the environment; (c) compatibility with the goals and objectives of the Town; (d) density; (e) location of use; and (f) availability of facilities and services.

- Preparing for a population growth that will continue at about the current rate with a permanent residency of 4,627 and an average summer weekday population of 35,000 by the year 2000.

- Instituting continuous land use planning and growth direction with effectively enforced zoning, subdivision,and building codes, amended in accordance with that planning, as the key tools for managing population and economic growth in Long Beach.

- Guiding new development away from AECs, providing protection for unique natural features, sensitive vegetative areas, rookeries, special habitats, and unstable physical forms such as dunes, inlets, and shorelines.

- Guilding new development away from hazardous areas where there is a tendency toward septic tank problems, flooding, washover, and inlet cutting.

- Approving development only when and where adequate facilities and services to support it are available.

- Amending the Long Beach Hurricane Mitigation Plan and its respective policies for guiding redevelopment and new growth as conditions in the Town change.

Town Character

It is the policy of Long Beach to promote and preserve the "family" oriented, retirement-resort atmosphere and reputation of the community by limiting the amount of activities that would detract from the Town's present character and distinction through effective land use plan implementation, and conscientious building permit, CAMA permit and zoning ordinance administration, and by advertising the Town as a quiet, family beach, upholding that tradition.

Housing and Residential Development

It is the policy of Long Beach to continue to encourage the development of a variety of housing types to meet the needs and desires of the citizenry and future permanent and seasonal residents by:

- Maintaining an area exclusively for single-family dwellings primarily for the growing permanent and seasonal population.

- Providing an area for mobile homes to accommodate both permanent and seasonal occupancy.

- Establishing an area for condominiums an dapartments, maintained to accommodate vacationing, resort, retired and other permanent populations.

- Providing in the beach section of Town for motels and hotels and their attendant facilities.

- Retaining the thirty-five (35)-foot height limitation for residential, commercial, and institutional structures.

Appearance and Cleanliness

It is the policy of Long Beach to improve and enhance its visual quality and attractiveness, both of which are directly related to liveability and economic viability by:

- Celebrating Long Beach Spruce-Up Week in the spring of every year.

- Strengthening and enforcing town ordinance relating to residential and commercial property cleanup with provisions for the Town to do the job at the owner's expense, if not carried out after proper notification.

- Requiring developers and construction companies to clean up during building activities and after jobs are complete.

- Continuing to pick up domestic garbage once per week in the winter and twice per week in the summer.

- Establishing a continuous cleanliness campaign with posters, signs, and additional trash (pitch-in) receptacles.

- Creating a community appearance commission with the charge to conduct clean-up campaigns, to receive referrals from the Town Board and Planning Board for recommendations, and to institute community activities, within the context of tis charter, relating to beautification, environmental protection and preservation, advocacy for quality development, and education.

Commercial Development

The permanent and seasonal residents should have access to basic shopping and service facilities. It is the policy of Long Beach to enhance and promote quality commercial development by:

- Encouraging community oriented business to cluster in the existing commercial district on Oak Island Drive and limiting the strip development configuration now in existence with office and institutional uses on both ends.

- Locating recreation and tourist businesses generally in designated sections of the beach area, discouraging strip development.

- Exploring the feasibility of a zoning change for a convenience shopping facility in West end as suggested in the Growth Management Plan of June 1984.

- Encouraging the formation of a business association for Long Beach.

- Requiring that construction materials, gravel and sand piles, and equipment storage not be allowed in commercial districts in accordance with the zoning ordinance.

- Instituting a major paint-up/clean-up campaign in commercial areas to improve the image of the Town.

Public Works and Services

It is the policy of Long Beach to increase its capacity proportionately to provide public works facilities and serivces to growing permanent and seasonal populations and to existing and developing, residential, commercial and recreational areas by:

- Increasing the Town's capabilities to keep the beach and Town Proper free of litter and trash, particularly during the summer months to improve the cleanliness and image of the community.

- Supplying more signs and receptacles in problem areas to encourage cleanliness.

- Continuing its sewer system studies to determine where and when sewerage might be installed incrementally with accompanying treatment facilities provided either by the public or private sectors.

- Exploring privatization of public works equipment, facilities, and services as a means of providing an improved quality of service more economically.

- Developing a plan and program for alleviating drainage problems on a year-by-year incremental basis.

- Instituting a means to pave streets through year-by-year planning and priority programming based on traffic demand, citizen requests, and ability to pay.

- Preparing a plan for providing street lighting where population concentrations require.

- Improving its ability to maintain streets in good condition.

Package Treatment Plants

There are no package treatment plants in Long Beach. All development is served by septic systems. It is the current thrust of the Town to determine the needs for sewerage and treatment and to decide whether the system, if needed, be installed and/or operated by the private or public sector.

Traffic Circulation and Transportation

Accessibility and minimal congestion are hallmarks of a well-planned, attractive vacation and resort community. It is the policy of Long Beach to meet the increasing need to move people and goods from place to place conveniently, safely, quickly, and efficiently, particularly during the summer months, when traffic congestion is highest by:

- Planning for the installation of curb, gutter, and sidewalks along Oak Island Drive, first in commercial areas, to control access to businesses, to separate on-site parking from traffic, to facilitate smoother traffic flow, and to improve the appearance of Long Beach.

- Facilitating off-street parking areas in close proximity to commercial establishments.

- Modifying traffic circulation patterns to enhance flow by incorporating one-way loop streets into the system.

- Maintaining public beach access and parking.

- Paving residential streets in accordance with annual planning and priority programming.

- Planning for modification of the grid system of streets in residential sections for the purposes of curtailing thru traffic, discouraging high speed driving, promoting safety for children, stemming tidal and flooding washover, increasing neighborhood atmosphere, improving property values, and decreasing street maintenance costs.

- Mounting a concerted campaign with Caswell and Yaupon Beaches to acquire a second bridge for Oak Island either at Middleton Avenue or at West end.

- Joining with Yaupon Beach in seeking to modify the intersection of NC 133 and Yaupon Drive (Oak Island Drive), moving the stop sign to NC 133 coming from Caswell Beach.

- Developing a plan for bikeways/sidewalks in strategic locations.

- Encouraging the expansion of the county-sponsored transportation system for the elderly and handicapped.

Public Safety and Security

All citizens, seasonal residents, and visitors to Long Beach should be able to feel safe and secure on the streets, at public and private places and in their homes and lodgings, and they should not have to worry about the safety of their property and possessions. It is the policy of Long Beach to provide the highest level of safety possible in response to growth and development within financial constraints for humans and property by:

- Establishing a beach patrol during the peak summer months.

- Exploring alternative means of patrolling the Town and beach during daylight hours, including mounted and walking police possibilities.

- Encouraging the establishment of additional Community Crime Watch programs.

- Seeking ways to enlarge or decrease the numbers of police officers during seasonal fluctuations.

- Expanding the police force as population growth occurs in accordance with state and national public safety standards.

- Supporting the Long Beach Rescue Squad so that it can continue to provide services to meet the needs of the growing population.

Fire Protection

It is the policy of Long Beach to support the Town's Volunteer Fire Department. The Town has cooperative fire protection arrangements with Yaupon Beach and Caswell Beach and other communities and volunteer departments in the County.

New Development and Growth Activities

It is the policy of Long Beach to encourage new development in areas which have full town service and infrastructure, no major flooding problems, septic tank suitability, and where there is no encroachment upon AECs and other fragile areas.

The Town is physically locked-in on all sides by Yaupon Beach, the ocean, Lockwood's Folly Inlet, the Intracoastal Waterway, and salt marsh. Development will continue in the form of "in-filling" of the Town's numerous vacant lots. Extraterritorial rights and annexation are not an issue at this point in Long Beach's history. It is the policy of Long Beach to monitor growth and its impacts to the best of its ability to assure that the environmentally sensitive areas AECs within and abutting its borders will be protected and enhanced.

Redevelopment Areas

The Town has no specific area set aside for concerted redevelopment planning and implementation, but there are specific strategies for improving certain areas of the community.

Vulnerability and Hazard Mitigation

Through its Hurricane Safety Committee as appointed by the Town Commissioners, it is the policy of Long Beach to maintain its 1984 Hurricane/Storm Plan up to date to meet the changing needs of the community. The Town will on an annual basis, prior to storm season, during the month of July: (a) review emergency activities and roles of respective groups; (b) identify high risk individuals who need assistance in evacuation; and (c) seek ways to improve existing codes and assure that they are, in fact, being enforced.

1. The Town will update brochures as found to be necessary which give safety advice and Town policy for residents in the event of hurricanes, other storms, and flooding regarding medical care, evacuation, and temporary shelter.

2. The Town will adhere strictly to the administration of a zoning ordinance, the building code, and CAMA regulations for the future safety of its citizens and their property.

3. Long Beach will seek to take the lead in seeking to have a second bridge to the island built at mid-town.

4. The Town will seek out a "sistertown" on the mainland, so that additional staff and equipment can be made available during emergencies. The "sistertown" will be inland far enough to be less vulnerable to the same storms as Long Beach.

5. It is the policy of Long Beach to curtail to the greatest extent possible development and additions in areas susceptible to high winds, flooding, wave action, and erosion.

6. It is the policy of Long Beach to allow no building construction in AECs including the salt marsh, low-lying wet areas, and ocean hazard areas.

7. It is the policy of the Town to limit development in the V Flood Zone as shown on the Composite Hazards Map in accordance with CAMA and Federal Flood Insurance regulations and the zoning ordinance to alleviate as much as possible damage from wave action and erosion.

8. The Town will not allow further construction and additions not conforming to these hazard mitigation policies, which would increase vulnerability and nonconformity to the flood ordinance, zoning ordinance, building codes and CAMA regulations.

Zoning

Spatial segregation of conflicting land uses will be encouraged through the use of the zoning ordinance. It is the policy of Long Beach to modify the zoning ordinance from time-to-time to improve its effectiveness as a growth guidance tool to carry out the land use plan.

Culture and Recreation

There is a direct relationship between the availability of cultural, recreational and leisure outlets and activities and local growth and economy. It is the policy of Long Beach to maintain an environment where cultural and recreational activities can flourish for the benefit of permanent residents, the seasonal population, and vacationing visitors by:

- Completing the Recreation Center.

- Establishing a senior services center.

- Encouraging art shows, antique sales, fish fries, barbeques, clam bakes, festivals, and concerts during the spring, summer and fall months.

- Holding an annual town arts and crafts festival based on a local theme, e.g., conch, Scotch Bonnet, dogwood, shad, azalea, etc.

Public School System

Long Beach is served by a countywide school system. Children are transported in buses to schools on the mainland. The Town encourages continued and expanded multi-purpose use of these facilities for recreation and other purposes to meet the growing population of the Town and County.

Town Administration

The Town Board with the help of the Planning Board and Administration will carefully monitor growth and development in the community so that the problems and high expense that accompany the dynamics of inevitable growth do not become overwhelming. It is the policy of Long Beach to manage growth by:

- Monitoring staff and professional service needs in planning, engineering, and inspections so that quality of development can be maintained and improved as growth increases in speed and quantity.

- Seeking ways to acquire better and more spacious accommodations for the Town staff so that they can continue to supply high quality services and maintain efficiency in government.

Marinas and Public Boat Accesses

It is the policy of Long Beach to provide public boating access. Two boat ramps are provided and maintained in protected waters. One is situated at Sportsmen's Marina at 54th Street West on David Creek/Canal. The other is located on the Intracoastal Waterway at Dutchman Creek Villas and Marina at 55th Street East and Yacht Drive. The Town monitors the use, need, and desire for these facilities on a continuing basis and through land use planning questionnaires. Floating homes are not permitted within the confines of the Town Limits.

Energy Facilities

Substation facilities for electricity are situated on Yacht Drive between 5th and 6th Streets East. There are no energy generating facilities in Long Beach. The Town and residents purchase electricity from Brunswick Electric Membership Corporation. The Carolina Power and Light Company's Brunswick Nuclear Generating Plant is located on the mainland near Southport. It is the policy of Long Beach to evaluate the need for all community service facilities on demand in accordance with the land use plan. There are no planned sites.

Channel Maintenance

Long Beach is located next to the Intracoastal Waterway that is maintained for navigation by the U.S. Army Corps of Engineers. The Davis Creek/Canal which lies between the Town Proper and Beach areas is kept open so that small boat access can be had to a commercial marina and public boat ramp at 57th Place West. It is the policy of Long Beach to be able to maintain channels.

CONTINUING PUBLIC PARTICIPATION

The expressed ideas and suggestions of the people over the past five years have been invaluable to Town-elected and appointed Town leaders in their preparation of the 1986 Land Use Plan Update. Much worthy input has been received from concerned people, many of whom have lived elsewhere and have seen how unplanned growth can hurt a community. Citizens' contributions have been given prime importance and weight in preparing the update. Meeting the present and future challenges posed by rapid change and growth has been made easier with the help of an interested citizenry.

It is the policy of Long Beach to promote responsible citizen participation so that decision-makers can meet more effectively the needs and desires of the community by:

- Advertising Town Board and Planning Board meetings.

- Conducting periodic questionnaires.

- Holding town meetings to educate the people about growth, development, conservation and preservation issues.

- Instituting an "open door policy" for citizens to provide input through elected and appointed officials.

- Providing information through the media with interviews, announcements and news releases.

POLICY IMPLEMENTATION: GOALS, OBJECTIVES, AND STRATEGIES

Based upon (1) the analyses of population, housing, economy, land use, water supply, and sewage disposal and upon the various identified physical and natural constraints in Long Beach, based upon (2) the expressed needs and desires of the citizenry as garnered through the 1986 survey, at the Community Workshop, and at open Town Commissioners' and Planning Board meetings, and based upon (3) stated policies of the Town Board of Commissioners, the following goals, objectives and strategies for the Town have been developed by the Planning Board and Town Commissioners.

Goals, objectives, and strategies are statements of the Town's intent to deal with the issues it faces through the implementation of its policies. It must be recognized that all goals cannot be met entirely at once, but priority can be given to them so that sequential progress can be made.

I. POPULATION GOAL STATEMENT

To maintain and enhance a community atmosphere that fosters stability and promotes both permanent and seasonal residency, with population growing to 3,249 permanent residents by 1990 and 4,627 by 2000. Estimates show a seasonal residency of 27,000 by 1990 and 35,000 by 2000.

Supporting Objectives

A. Encourage a gradual growth within the limitations of land availability, water availability, septic tank suitability, environmental constraints, and Town financial ability.

Strategies

1. Estimate the Town's population annually through the use of water meter connections and water use formulas and determine the ability of the existing infrastructure to meet adequately the needs of the residents.

2. Monitor closely the Town's ability, relative to population increase, to provide quality services.

3. Consider the halting of building permit issuance if population growth exceeds the Town's ability to provide services, the limitations in land availability, and community capacity.

II. TOWN IMAGE GOAL STATEMENT

To improve the appearance and image of Long Beach.

Supporting Objectives

A. Emphasize the availability of Town trash removal among residents so that they will know to call for this service when needed.

B. Announce the Town's seriousness about cleaning vacant lots and removing debris, and advertise its policies about doing it for property owners and charging them fees for this activity when they are unwilling or unable to accomplish the task themselves.

C. Begin to enforce the sign provisions of the Town code more effectively, establishing date deadlines for rectifying infractions and monitoring sign usage throughout the community.

D. Establish an appearance commission by ordinance to work toward the improvement of the Town's physical image.

Strategies

1. Hold a Town meeting to present the intent of the Town and to solicit ideas, direction, and support.

2. Ask for volunteers to serve on the appearance commission.

3. Appoint an appearance commission with staggered terms.

4. With the help of the citizens, set goals and objectives for enhancing the quality of development and compatibility in commercial and residential areas, especially along Oak Island Drive.

5. Prepare a plan for improving commercial sections first and then residential neighborhoods.

6. Work with merchants, groups of neighborhoods, public schools, and churches to promote the quality of appearance and development.

7. Seek out civic organization help and the assistance of the Towns of Caswell Beach and Yaupon Beach to improve the appearance of the entrance to Oak Island from NC 133.

E. Continue the "Reach Out for Long Beach" litter clean-up campaign on an annual basis and expand the program to include paint-up/fix-up activities and landscaping efforts.

Strategies

1. Establish a planning committee to oversee the organization of the effort.

2. Institute a Mayor's Proclamation for the week.

3. Provide a challenge stipend of funds, to be matched by the private sector, for use in promoting the week and daily activities related to it, including the awarding of prizes.

4. Associate the week with an annual Town Hall meeting, festival, volunteer fire department fund raising, and/or fish-fry/barbeque.

F. Increase the sensitivity of visitors and residents about community and beach cleanliness.

Strategies

1. Put out signs asking for help in keeping the beach, access areas, and the remainder of the Town litter-free.

2. Increase policing of problem litter areas by using community service assignees and hiring temporary help during the summer.

III. ENVIRONMENTAL STEWARDSHIP GOAL STATEMENT

To continue to protect and promote the enhancement of those fragile coastal environmental features which are a part of the Town and, in fact, provide sustenance for the community's well-being, the state, and the world.

Supporting Objectives

A. Administer on a continuing basis, in a conscientious manner, the CAMA permitting responsibilities of the Town.

B. Continue to protect the dunes and their vegetation from destruction caused by construction by consistently enforcing Town setback laws for construction behind the first line of vegetation.

C. Continue to provide adequate access to the beach via signs and walkovers at strategic locations with adequate parking.

D. Continue to maintain strict prohibition of vehicles on the beach.

E. Continue to protect wetlands, estuarine waters, beach systems, and public trust areas from uses that are not water dependent and from other incompatible uses which would be injurious to the salt marsh.

Strategies

1. Control development, use, and access to the salt marsh along the Intracoastal Waterway through zoning, subdivision, and CAMA permit administration, using supplemental citizen assistance through "stream-watch" type programs to monitor condition, change, and activities.

2. Monitor access, use, and condition of Davis Creek/Canal, instituting local stream-watch assistance from citizens.

3. Adhere to provisions of zoning, subdivision, and CAMA codes to protect these areas.

F. Seek ways to promote the restoration of shellfishing in the marshes and to increase productivity.

Strategies

1. Continue review of necessity of sewerage and treatment facilities as demand increases in accordance with the Mayor's special study committee recommendations taking into consideration privatization, Farmers Home Administration and Community Development

Block Grants and Loans as they remain available. Study, review, and recommend other alternatives to conventional septic tank systems in problem areas.

G. Explore the possibilities of identifying nomination category AECs.

Strategies

1. Contact NRCD and the Department of Cultural Resources for assistance in the process.

2. Contact, or assign internally, personnel to identify areas, assess their value to the environment and community, and guide the Town through the designation process with the State.

H. Discourage clear-cutting of lots.

Strategies

1. Adopt a Town tree ordinance to protect vegetative cover.

2. Encourage land owners to protect trees on their properties through educational pamphlets.

3. Promote the planting of street trees along Oak Island Drive and Beach Drive through a community appearance commission, and promote the replanting of trees and shrubbery on already developed lots.

4. Continue public beach access conservation activities for dune protectionby maintaining bridges and insisting upon their use through signage and monitoring at 42 access points.

I. Continue to guard against nonfunctioning septic tank systems.

Strategies

1. Strictly administer septic tank regulations, health code requirements, and subdivision regulations to prohibit development in areas where soil is poor and erosion is prevalent. Study, review, and recommend alternatives to conventional septic tank systems for use in these areas.

IV. HURRICANE/STORM MITIGATION GOAL STATEMENT

To prepare better for storm events in accordance with the 1984-85 Hurricane Plan.

Supporting Objectives

A. Provide more security for people and property in Long Beach.

Strategies

1. Maintain the Long Beach Hurricane Plan in an up-to-date state to meet continuing changing needs.

2. Declare an annual storm awareness week with instructional meetings and displays during the latter part of summer.

3. Schedule annual rehearsals for all participants involved in the mitigation, evacuation, and recovery processes.

B. Amend all codes of the Town to bring them in line with the policy implementation elements of the 1986 Land Use Plan Update.

Strategies

1. Rewrite portions of the zoning ordinance to bring them in line with measures promoted in the 1986 Plan Update to mitigate storm damage.

2. Modify the zoning ordinance to ensure that post-disaster reconstruction will be in accordance with the provisions, policies, goals, objectives, and strategies of the 1986 Land Use Plan Update.

3. Review the subdivision regulations and amend them as necessary to assure that they will be applicable to meet today's new design and development attitudes, possibilities, and standards set in the 1986 Land Use Plan in the event of the need of Town redesign after a devastating storm.

C. Implement faithfully the Vulnerability and Hazard Mitigation Policies listed in the 1986 Land Use Plan.

V. POST DISASTER RECOVERY GOAL STATEMENT

To do all within the Town's capacity to bring the community back to normalcy within the context of the 1986 Land Use Plan Update and in accordance with the 1984-85 Hurricane Plan.

Supporting Objectives

A. To instill confidence in the citizenry.

Strategies

1. Provide information about the recovery planning process, making it available to all concerned.

2. Post bulletins at Town Hall and have standard information available for the people both in verbal and written form.

3. Establish communications facilities operations (public announcements via vehicles in neighborhoods, radio, and telephone).

4. Follow the strategies that have been set in the Hurricane Plan wherever possible to avoid confusion.

B. Conduct damage assessment surveys and analyses as soon as practicable.

Strategies

1. Publish explanations of the survey system and what designation of structures means in terms of restoration, repair, and conformity to the 1986 Land Use Plan Update.

2. Designate space for short- and long-term emergency housing.

3. Prepare an Emergency Land Use Zoning Overlay so that people will understand what and where reparation may be carried out.

4. Appoint a damage assessment team so that it will be able to go into operation immediately.

C. Establish an emergency licensing system for qualified contractors to work in the community.

VI. EVACUATION GOAL STATEMENT

To ensure that evacuation of people from the community is effected in a timely manner, follow the guidelines established by the Long Beach Hurricane Plan (1984-85), the County, and the State.

Supporting Objectives

A. Keep in close contact and work cooperatively with the County and N.C. Division of Emergency Management.

B. Monitor closely the reports of the U.S. Weather Bureau.

C. Keep in radio and telephone contact with the Towns of Yaupon Beach and Caswell Beach, necessitating a cooperative effort with these municipalities in evacuation, bridge use, and NC 133 access via Oak Island Drive/Yaupon Drive.

Strategies

1. Institute an Oak Island emergency network meeting and workshop with Yaupon Beach and Caswell Beach.

2. Talk over common evacuation problems and issues with these municipalities on a regular basis.

3. Identify common policy measures which would enhance smooth evacuation activities.

4. Evaluate required evacuation time to determine cooperative and compatible evacuation capacity policies.

VII. RESIDENTIAL GOAL STATEMENT

To provide permanent housing opportunities for younger growing families, individuals, retirees, and the elderly, and seasonal housing opportunities for vacationing families and individuals.

Supporting Objectives

A. Promote the present residential character of Long Beach, particularly retaining its appeal for permanent residency, including employees of local commercial and industrial enterprises and retirees, in West End, and for seasonal residency in the Beach area.

B. Foster the continuing development of single-family residential conventional housing and condominiums with the stipulations set forth in the Long Beach Zoning Ordinance and Subdivision Regulations.

Strategies

1. Through modifications of the zoning ordinance in accordance with the 1986 Land Use Plan Update, encourage single-family-type resort and retirement seasonal residency in appropriate areas designated by the Zoning Ordinance.

2. Limit the siting of mobile and manufactured homes to East Town as designated in the Zoning Ordinance.

C. Promote the infilling of platted vacant residential lots primarily in Tranquil Harbour to foster economy and efficiency in installing and maintaining water and sewer, and in providing other municipal services and facilities such as fire, police, and rescue service, paved streets, and street lighting.

Strategies

1. Identify lots where there are no environmental constraints such as low-lying, wet and flood areas.

2. Show where septic tank use is most suitable.

3. Meet with realtors and developers to discuss the promotion of residential development in the most appropriate areas.

D. Enhance the sanctity of residential neighborhoods by discouraging thru traffic along the traditional grid system of streets. See the Transportation Goal Statement.

Strategies

1. Identify streets that can be closed with cul-de-sac applications.

2. Study flow on cross-town residential streets and discourage thru traffic through the use of "stop" and "yield" signage.

VIII. COMMERCIAL GOAL STATEMENT

To provide two types of commercial retail and service areas to meet the needs of permanent and seasonal residents, tourists, and vacationers.

Supporting Objectives

A. Encourage the concentration of commercial activities into two different areas.

Strategies

1. Concentrate commercial activities and needs of the permanent population into a more compacted central business area along Oak Island Drive.

2. Focus vacation and resort commercial activities in zoned commercial recreation areas along Beach Drive.

3. Amend the Zoning Ordinance accordingly, with the 1986 Land Use Plan Update as the guide.

   a. Limit the growth of strip commercial activities to the existing central business area along Oak Island Drive by allowing for office and institutional uses to "cap-off" the strip on each end.

B. Begin a concerted, continuing effort to improve the appearance and quality of commercial areas.

1. Begin to administer more effectively the sign ordinance of the Town in commercial areas.

Strategies

1. Meet with owners of businesses in Long Beach to discuss how their enterprises can be enhanced to their benefit and the community's.

2. Foster the formation of a merchants' association which would take up a number of issues that face the commercial community, including:

   a. compaction
   b. access, parking, and congestion
   c. appearance, image, and landscaping
   d. surrounding competition and mutual support

3. Prepare a plan for the improvement of the central business area which leads to compaction, convenience, better appearance, landscaping, tree planting, and improved access and parking, and general improvement of the local economy. This plan would work cooperatively with the proposed Town appearance commission.

IX. TRANSPORTATION AND TRAFFIC GOAL STATEMENT

To enhance access to employment, shopping, and personal services, to promote an unencumbered flow of traffic, and to accommodate parking in appropriate locations.

Supporting Objectives

A. Assume leadership in supporting the construction of a second bridge to Oak Island at Middleton Avenue.

Strategies

1. With officials of the Towns of Caswell Beach and Yaupon Beach, meet with the local Highway Commissioner to discuss the issue and to seek out direction and support.

2. Contact the State Highway Division's Advance Planning staff to assist in the site location of a new bridge and to assist in the modification of the Thoroughfare Plans of the three communities incorporating the planning, scheduling, and construction into their plans.

B. Separate thru traffic from parking traffic in business areas.

Strategies

1. Amend the Zoning Ordinance to require that all new development and all existing development, within two years, in business areas be required to separate parking from traffic on Oak Island Drive and Beach Drive through the use of curb cuts and adequate access design and parking accommodations.

2. Begin to rectify existing traffic/parking conflicts by amendment to the Zoning Ordinance through the requirement that after a certain date all property owners will have to modify their access points to Oak Island and Beach Drives to meet minimum requirements for access.

C. Enhance traffic flow on NC 133 and 211.

Strategies

1. Serve as the catalyst with Brunswick County, Southport, Yaupon Beach, and Caswell Beach to institute zoning with provisions for access and curb cuts along NC 133 and 211.

D. Explore ways to provide for better traffic flow off and onto Oak Island.

Strategies

1. Promote the changing of design and enhancing the flow of traffic through Yaupon Beach at the intersection of NC 133, providing for the right-of-way for high-volume traffic from Long Beach and for stopping the very low-flow of traffic at the intersection from Caswell Beach.

X. PUBLIC PARTICIPATION GOAL STATEMENT

To maintain a permanent, regular means of providing the citizenry with opportunities to express their opinions, ideas, suggestions, and compliments on Town operations and affairs to the Town Board of Commissioners and Planning Board.

Supporting Objectives

A. Hold annual Town Hall meetings in the spring of each year, in conjunction with spring paint-up/clean-up week, to air the feelings and ideas of the people, to inform them about "The State of the Town", and to solicit their suggestions for the future and the improvement of facilities and services.

B. Send out questionnaires from time to time to seek further direction from residents.

C. Advertise Town Commissioner and Planning Board meetings on a continuing basis, encouraging citizens to attend, giving tentative agendas where possible up to a week ahead of time, in the newspaper.

XI. PUBLIC SAFETY GOAL STATEMENT

To provide the best fire, police, and rescue services possible.

Supporting Objectives

A. Explore the possibilities of increasing and extending police protection throughout the vacation season in an acceptable manner while decreasing the protection force during winter months in accordance with need.

B. Study needs for additional street lighting to meet expressed concerns and desires of residents.

XII. PARKS AND RECREATION GOAL STATEMENT

Supporting Objectives

A. Continue to uphold the Town policy on public access to the beach which provides rights-of-way with dune bridges, signage, fencing, and parking along Beach Drive at the ends of streets on the ocean.

B. After storms, identify parcels of land that would be unbuildable (unable to meet CAMA and local standards) due to newly developed constraints, and consider their appropriateness for public access to the beach and estuarine waters or use for other recreational purposes.

C. Designate buffers to estuarine waters - waterways and wetlands not only to benefit water quality, but to provide additional picnicking and other non-impact park uses along waters, enhancing these valuable amenities for the community.

XIII. INTERCOMMUNITY COOPERATION GOAL STATEMENT

To assume initial leadership in exploring cooperative measures between Oak Island municipalities, and Southport as applicable, in exploring consolidation of services and facilities.

Supporting Objectives

A. Identify traffic flow and control as an issue, and create a cooperative working relationship to rectify these.

Strategies

1. Host an initial meeting with Mayors of Caswell Beach and Yaupon Beach.

2. Follow procedures identified in the Long Beach's Transportation Goal Statement and those set forth in respective thoroughfare plans of the three municipalities.

B. Identify sewage collection and treatment as a common issue among Oak Island towns and proceed to work for rectification with a joint effort seeking viable alternatives.

C. As a four-municipality cooperative unit, approach the Brunswick County Commissioners with proposals for establishing developmental plans and zoning controls along NC 133 and 211.

Strategies

1. Establish a common working agreement for effecting this proposal among the mayors and boards of commissioners.

2. Seek out professional assistance to develop sound and acceptable proposals for presentation to the County Commissioners.

XIV. WATER GOAL STATEMENT

To monitor closely the increases of the consumption of water and to pay close attention to the increasing number of hookups to the system, assuring that adequate and safe water supply is maintained as the Town grows.

Supporting Objectives

A. Identify viable alternatives to augmenting the capacity of the system.

Strategies

1. Look into longer range prospects such as adding more storage facilities.

LAND CLASSIFICATION

PURPOSE

CAMA guidelines require that Long Beach develop a classification map of land within its jurisdiction showing up to five classes and their subdivisions. The criteria for these classes are set forth in state guidelines, so that a coordinated, consistent expression of local policy at the large regional scale can be seen for coastal North Carolina.

A land classification system is a means for implementing goals, objectives, and policies. By delineating land classes on a map, the Town has specified those areas where certain policies (local, state, and federal) will apply. The map is merely a tool to help implement policies and not a strict regulatory mechanism.

The land classification system provides a framework to identify the future use of all lands in Long Beach. The designation of land classes allows the Town to illustrate its policy decisions as to where and to what density growth might occur, and where natural and cultural resources will be preserved. The map also provides the basis for development regulations and capital improvements programming and budgeting.

On a regional scale, the Land Classification Map is used as the basis for regional plans and for the regional clearinghouse pruposes of state and federal government.

On a state and federal level, the local plans are used as a major component in the granting or denial of permits for various developments in the coastal area. State and federal agencies must be certain that plans and decisions relating to the use of federal or state funds are consistent with local governmental policies. Likewise, projects being undertaken by state and federal agencies themselves must be consistent with the local plans.

RELATIONSHIP OF LAND CLASSIFICATION MAP TO POLICY STATEMENTS

The Land Classification Map is a graphic representation of the policy statements formulated and adopted through the citizen participation process and planning workshops with the Town Board of Commissioners and Planning Board. The classification of land reflects existing development patterns as well as the desired pattern of development as reflected in the policy statements. It also corresponds to the Town policy of prohibiting development in hazard areas due to danger from flooding, severe erosion, or bearing capacity or septic tank suitability. These areas can be seen along ocean-front and estuarine shorelines and marshlands.

LAND CLASSES

The land classification system includes five broad classes which can be subdivided into more specific land use designations. The five general land classes are Developed, Transition, Community, Rural, and Conservation. Three of these classes are applicable to Long Beach. They are Developed, Transition and Conservation.

Developed

Purpose - To provide for continued intensive development and redevelopment of existing towns.

Definitions - Lands currently developed for urban purposes at or approaching a density of 500 dwellings per square mile and provided with water, sewer, police and fire protection, and recreational facilities. Areas which exceed the minimum density but lack central sewer may best be divided into a separate class to indicate that although they have a developed character, they may need sewers in the future.

Permitted Land Use - Depending on geographic location, zoning district, and CAMA regulations, uses found typically in this class for Long Beach are residential and commercial with improvements such as streets and water service, but with sewer only in the subclass titled Developed - Future Service.

Transition

Purpose - To provide for future intensive urban development within the next 10 years on the most suitable lands scheduled for public utilities and services.

Description - Lands classified as transition may include areas currently having urban services or necessary to accommodate future growth. Transition lands must 1) be served, or readily served by public water, sewer, and streets, and 2) be free of severe physical development limitations.

Permitted Land Use - Depending on geographic location, zoning district and CAMA regulations, uses found typically in this class for Long Beach are higher density residential and commercial with all urban facilities and services either available or desirable.

Conservation

Purpose - To provide for effective, long-term, management of significant limited or irreplaceable areas.

Description - Should be applied to wetlands, undeveloped, hazardous shorelands, wildlife habitat, publicly owned aquifers and certain forest lands.

Permitted Land Use - Urban-type use is severely limited with paramount emphasis on protecting and preserving natural resources from human development, including ocean hazard area, estuaries, shorelines, and other delicate resources.

LONG BEACH LAND CLASSIFICATION SYSTEM

Using the definitions above, the following system of land classification has been designed to most effectively represent the Town's land use policies. These land classes are illustrated on the Land Classification Map.

These classes and the Land Classification Map are intended to serve as a guide for future growth and to implement the land use policies previously stated. They are not intended to restrict any of the uses permitted under the Town Zoning ordinance, that are found to be consistent with the Land Use Plan Update.

Developed - Future Service

This classification recognizes the developed nature of the Town in all ways except the provision of public sewer. With approximately 3,275 dwellings in the Town's 5.0 square miles, all of the Town's developable areas, (i.e., all areas exclusive of water, wetlands, and beaches) fall into the Developed definition of 500 dwellings per square mile (3,275 divided by 5). However, since none of the Town is currently served by public sewers, this classification is modified to recognize this fact. Thus, the purpose of this classification is to encourage the continued development of the Town as a predominantly single-family community but to recognize that future locations and rates of growth must be consistent with the capability of the land and surrounding waters to absorb if the Town does not have the capacity to protect these areas through a public sewer system. It is also the intent of this classification to recognize the possible future need for a public sewerage system.

The classification is intended to implement the development policies set forth in the Land Use Plan Update. Land Uses permitted within this district are those permitted under the Town zoning ordinance. The sections of the community covered by this classification include all areas exclusive of the remaining classifications.

Developed - Limited Service

The purpose of this classification is to recognize the dangers of development in areas subject to inlet migration and to implement the ocean hazard areas policies. This designation includes all of the area from 60th Place West to Lockwood's Folly Inlet lands. Permissible uses are those allowed under the Town zoning ordinance, but major public facilities are discouraged because of probable land loss from erosion and inlet migration.

Transition

The purpose of this classification for 1986 is to identify areas in which higher densities and more intensive uses will be permitted and where a central sewage system might be considered first. This classification will promote more efficient land use through clustering of commercial and high density development, alleviating pressure for development in hazardous areas and for strip commercial development.

This classification is primarily intended to implement policies relating to commercial and residential development. Suitable land uses will be those allowable under the zoning ordinance. This area runs from 46th Street East to 79th Street East, exclusive of lands reserved for Developed-Future Service as delineated on the Land Classification Map.

Conservation

This classification is intended to identify areas which are either hazardous for development and/or include significant natural resources to be protected. Included in this classification are ocean beaches, inlet lands, wetlands, salt marshes, Davis Creek/Canal, and estuarine water.

The purpose of this classification is to implement the policies relating to ocean hazard areas, estuarine shorelines, estuarine waters, and public trust areas. It includes all abutting lands which fall within the estuarine system as defined in the AEC guidelines, and all areas on the ocean side which meet the definitions of an ocean hazard area. Permitted uses are extremely limited by the zoning ordinance in conservation class lands.

The majority of the Town lies within the same land classes as in 1980. In 1986, however, a new class is added--Transition. This class is described above. It includes lands extending from Town Hall, at 46th Street East in the vicinity of Oak Island Drive, all the way to 79th Street East at the Town limits, lying between the areas classified as conservation on the North and South. The transition class area is delineated on the following maps.

Current thoughts are that sewer would be installed Town-wide, but if this is found to be unfeasible, sewer should become a priority in the area classified as transition. Because of high densities, particularly in East Town where there are mixed residential uses and on Oak Island Drive where there are commercial usages, sewerage would be best installed in these areas first, stemming the tide of strip development along Oak Island Drive. Sewer installation will allow for efficient clustering of commercial development.

The 1986 Land Classification Map follows. The changes are indicative of the dynamics of Long Beach's growth and development between 1980 and 1986.

LAND CLASSIFICATION 1986

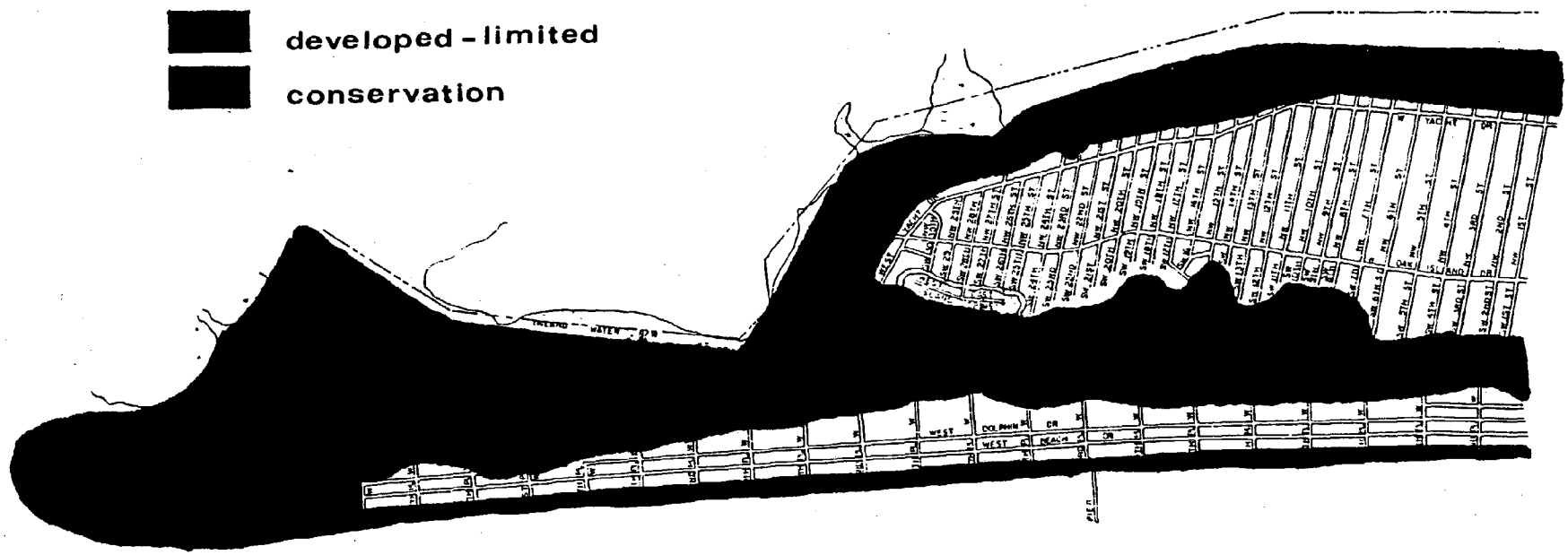
transition

developed-future

developed-limited

conservation

1 inch = 2400± feet

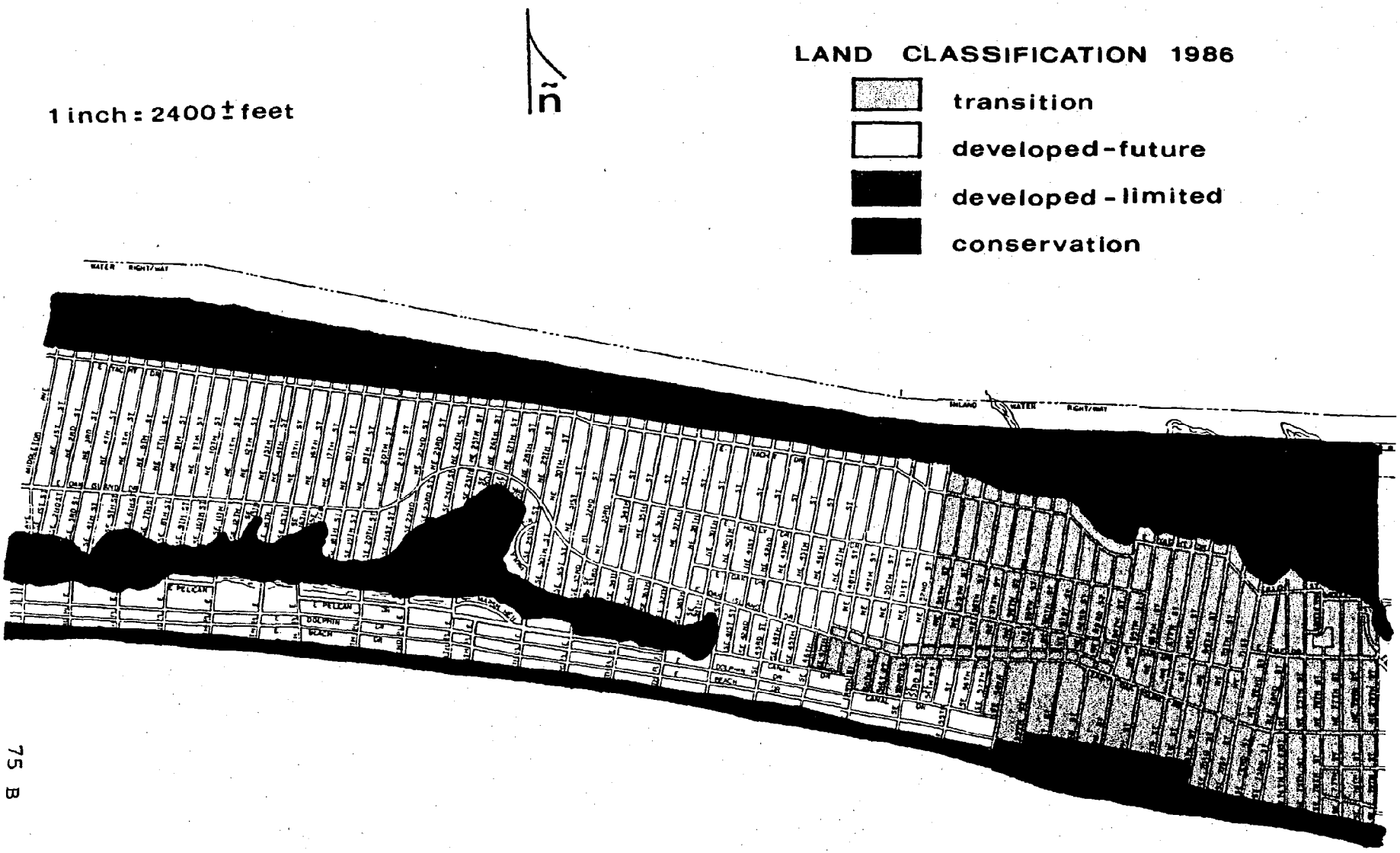


75 A

LONG BEACH North Carolina [west]

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Resources Management Act of 1972, as amended, which is administered by the Office of Coastal Resource Management, National Oceanic and Atmospheric Administration.

1 inch = 2400 ± feet



LONG BEACH North Carolina [east]

The preparation of this map was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Resources Management Act of 1972, as amended, which is administered by the Office of Coastal Resource Management, National Oceanic and Atmospheric Administration.

75 B